Article Type: Clinical Article

CLINICAL ARTICLE

Incidence of intimate partner violence among Ugandan women with pelvic floor dysfunction

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Keywords: Domestic violence; Intimate partner violence; Obstetric anal sphincter injuries; Obstetric fistula; pelvic floor dysfunction; Pelvic organ prolapse; Western Uganda

Synopsis: Women living in western Uganda experienced extremely high rates of intimate partner violence, regardless of whether or not they had pelvic floor dysfunction.

ABSTRACT

Objective: To assess the occurrence of intimate partner violence (IPV) among women seeking surgery for pelvic floor dysfunction (PFD) in a rural African community.

Methods: A prospective questionnaire-based study was conducted among women with obstetric fistula, unrepaired obstetric anal sphincter injuries (OASIS), or severe (stage 3 or 4) pelvic organ prolapse (POP) who attended surgical camps at Kagando Hospital in western Uganda between July 15, 2016, and September 14, 2017. The control group comprised women without PFD. Participants completed the Hurt, Insult, Threaten, and Scream (HITS) tool and the Woman Abuse Screening Tool (WAST) to screen for IPV.

Results: 117 of the 312 women interviewed reported current IPV: 73/214 (34.1%) in the PFD group and 44/98 (44.9%) in the control group. The PFD group comprised unrepaired OASIS (n=85, 39.7%), obstetric fistula (n=75, 35.1%), and severe POP (n=54, 25.2%). All groups experienced high levels of IPV. The frequency of positive screening results for IPV with WAST (score ≥13.0) and/or HITS (score ≥10.5) were: severe POP (n=17, 31.5%), obstetric fistula (n=28, 37.3%), unrepaired OASIS (n=30, 35.3%), and control group (n=44, 44.9%).

Conclusion: Women in western Uganda experienced high rates of IPV, regardless of whether or not they had PFD.

ANZCTR number: ACTRN12617001073392.

1. INTRODUCTION

Domestic violence is a global problem that violates human rights. Such behavior is defined as all acts of physical, sexual, psychological, or economic violence committed by family members or intimate partners. Estimates suggest that one in three women worldwide have experienced domestic violence, much of which is perpetrated by an intimate male spouse or partner [1]. Although intimate partner violence (IPV) is most commonly perpetrated by males against their female partners, IPV also includes violence against men by their female partners and violence within same-sex relationships [2].

In addition to the risk of acute injuries and their consequences, IPV can result in mental health issues such as depression, anxiety, and post-traumatic stress disorder [3, 4]. Furthermore, physical health problems, such as chronic pain and disorders of the

cardiovascular, respiratory, and gynecologic systems, can be exacerbated by IPV or else develop as a result of experiencing such behavior [5–7].

Several tools are available to screen for IPV. These methods include the Hurt, Insult, Threaten, and Scream (HITS) tool [8]; the Woman Abuse Screening Tool (WAST) [9]; a short version of WAST [9]; the Partner Violence Screen [10]; and the Abuse Assessment Screen [11].The HITS and WAST methods are both indicated for use in an outpatient setting [8, 9].

Women with pelvic floor dysfunction (PFD)—including obstetric fistula, unrepaired obstetric anal sphincter injuries (OASIS), or severe pelvic organ prolapse (POP; defined as stage 3 or 4 [12])—can experience high levels of social stigma and social isolation [13]. This observation suggested that PFD might be a risk factor for IPV.

The aim of the present study was therefore to use HITS and WAST to screen women with obstetric fistula, unrepaired OASIS, or severe POP for IPV.

2. MATERIALS AND METHODS

A prospective questionnaire-based study was conducted among women who underwent treatment for obstetric fistula, unrepaired OASIS, or severe POP during three separate surgical camps, which were held at Kagando Hospital in western Uganda between July 15, 2016, and September 14, 2017. Approval for the present study was obtained from the ethics committee of Greenslopes Private Hospital, Greenslopes, Australia (protocol 16/13) as there is no local ethics committee at Kagando Hospital; however, approval was given by the administration of this hospital. The present study was registered with the Australian New Zealand Clinical Trial registry (ACTRN12617001073392). All participants signed an informed consent form before enrolment.

Women living in the region surrounding Kagando Hospital were notified of the upcoming surgical camps by radio announcements and other forms of outreach. They were invited to attend the hospital to access treatment (e.g., surgery) for obstetric fistula, unrepaired

OASIS, or severe POP. These treatments were provided free of charge. All women who attended the surgical camps were invited to participate in the present study (n=304). In addition, women without PFD who were visiting Kagando Hospital for other reasons during the present study period were invited to participate (control group). Only women who were currently living with their intimate partner were included in the present study.

One of three nurses (IS, EK, and HN) experienced in obstetric fistula and gynecologic surgery questioned the participants in their local language and documented their responses in English. These nurses also recruited the control group. Demographic characteristics, obstetric history, and gynecologic history were obtained from the women seeking treatment for PFD. All participants underwent screening for IPV by both WAST [9] and the HITS [8] tool. The features of the HITS tool are shown in Box 1. A score of 10.5 or higher was indicative of IPV. Box 2 outlines the features of WAST. A score of 13.0 or higher was indicative of IPV. Both screening tests were performed consecutively for each woman at the same session.

Data were analyzed with SPSS version 23 (IBM, Armonk, NY, USA). Descriptive results were expressed as the mean ± standard deviation. Age comparisons were made using one-way analysis of variance. Tukey post hoc multiple comparison tests were used to identify specific differences when the overall between-group age difference was statistically significant. The incidence of IPV was expressed as a percentage. Pearson χ^2 tests were used to assess between-group differences in the incidence of IPV, on the basis of various screening cut-off criteria. A *P* value of less than 0.05 was considered statistically significant.

3. Results

A total of 312 women were interviewed, of whom 214 (68.6%) were in the PFD group and 98 (31.4%) were in the control group. The PFD group comprised 85 women (39.7%) with unrepaired OASIS, 75 (35.1%) with obstetric fistula, and 54 (25.2%) with severe POP. Not all of the 304 women who attended surgical camps had a current intimate partner; as such, only 214 completed the questionnaire.

The mean ages of the obstetric fistula, unrepaired OASIS, severe POP, and control groups were 31.76 ± 11.17 years (range 16–67 years), 34.39 ± 9.64 years (range 18–63 years), 50.54 ± 12.94 years (range 23–77 years), and 34.32 ± 9.97 (range 1–55 years), respectively. Statistically significant differences were found among the four groups (P<0.001 for all comparisons).

Women with severe POP were older than women with obstetric fistula (mean difference 18.8 years, 95% confidence interval [CI] 13.8–23.7); women with unrepaired OASIS (mean difference 16.1 years, 95% CI 11.3–21.0); and women in the control group (mean difference 16.2 years, 95% CI 11.5–21.0).

Women with obstetric fistula had a mean of 4.3 deliveries (range 1–12), with a mean age at first delivery of 18.2 years (range 13–25 years). Women with unrepaired OASIS had a mean of 4.7 deliveries (range 1–11), with a mean age at first delivery of 18.6 years (range 13–29 years). Women with severe POP had a mean of 7.3 deliveries (range 1–14), with a mean age at first delivery of 18.3 years (range 12–26 years).

The incidence of IPV as determined by screening with WAST and the HITS tool is shown in Table 1. All four groups showed a high risk of IPV. However, no between-group differences in IPV incidence were found for WAST alone (P=0.307); for the HITS tool alone (P=0.923); or for WAST and/or the HITS tool (P=0.431). There were also no statistically significant between-group differences when the incidence of IPV was compared among women with PFD (n=73, 34.1%) versus the control group (n=44, 44.9%) for WAST alone (P=0.068); for the HITS tool alone (P=0.683); and for WAST and/or the HITS tool (P=0.090).

A WAST cut-off score of 10 (rather than 13) has been proposed by some investigators [14]. As shown in Table 1, the incidence of IPV was increased in all four groups when this cut-off value was used. A statistically significant difference in IPV incidence was found between the four groups (P<0.001), with the rate being lower for obstetric fistula, unrepaired OASIS, and POP versus the control group (P<0.010). There was also a statistically significant between-group difference when comparing the incidence of IPV among women with PFD (n=119, 55.6%) versus the control group (n=79, 80.6%) for the reduced WAST cut-off value (P<0.001).

4. Discussion

The present study detected high rates of IPV in a western Ugandan population by use of the WAST and HITS questionnaires to screen women with PFD versus women without PFD. The incidence of IPV in these two groups was greater than 34% and 44%, respectively.

The benefit of IPV screening is controversial. Many major medical organizations recommend routine screening [15]. By contrast, the US Preventative Services Task Force found insufficient evidence to determine whether the usefulness of IPV screening outweighs any potential harm [15]. Concerns previously raised about IPV screening include reprisal violence, psychological distress, family disruption, and risk of child protective services removing offspring from the family environment [16]. A study that screened 3271 women attending medical services was unable to substantiate the efficacy of IPV screening in healthcare settings [16]. A Cochrane systematic review examined 10 studies, which included a total of 10 074 women, and found that IPV screening increased the clinical identification of affected individuals within a healthcare setting (odds ratio 2.95, 95% CI 1.79–4.87) [17]. No evidence was found regarding other outcomes arising from screening (e.g. harm). There remained insufficient evidence to justify screening in healthcare settings. [17] Implementation challenges often pose an appreciable barrier to building effective screening programs. Current recommendations for screening emphasize the need for confidential in-person assessment, with guidance on how to introduce the screening test and a clear protocol for referral [18].

Various simple tools are available to screen for IPV [15]**.**These methods were developed by comparing them with lengthy and detailed assessments such as the Revised Conflict Tactics Scale (CTS-2) [19]. This widely adopted scale is considered to be the gold standard as it measures the prevalence, duration,and severity of IPV.

The HITS scale was developed by Sherin et al. [8] as a method to screen for domestic violence in an outpatient setting.

This short tool provides users with an easily remembered acronym. It comprises four items designed to identify verbal aggression (two items) and physical aggression (two items), with a score of 10.5 or higher indicative of IPV.

The HITS scale showed good internal consistency and concurrent validity with the CTS-2 verbal and physical aggression items [8].

The HITS score demonstrated good clinical utility in a study that surveyed female veterans using both the four-item HITS tool and the 39-item CTS-2 scale [20]. The researchers found that a HITS cut-off score of 6.0 accurately detected 78% of all women who had been identified as abused within the past year using CTS-2. The present study used the standard HITS cut-off score (10.5) and found a lower incidence of IPV than when WAST was used to screen the cohort. As demonstrated in other studies [20], a rise in the number of positive screening results would be expected when using a lowered cut-off score.

The optimum cut-off score for WAST remains debated. Some researchers have suggested that reducing the cut-off score from 13 to 10 would improve sensitivity but reduce specificity [14]. In Canada, WAST was found to be a reliable and valid measure of domestic abuse when used in the family practice setting [9]. Both patients and physicians felt comfortable with the inclusion of WAST as a part of the consultation [9]. The present study used the standard WAST cut-off score (15) and detected a high incidence of IPV in all four groups. Of note, the recorded rate increased when a WAST cut-off score of 10 was used, with the control group having a higher risk of IPV than any of the PFD groups.

The prevalence of IPV varies between geographic regions and countries. A 15-site multi-country study on women's health and domestic violence against women estimated a lifetime prevalence of 15%–71% for physical or sexual violence [21]. In a hospital outpatient department in Tanzania, IPV screening with a modified Abuse Assessment Screening tool found that 78% of women had experienced emotional, physical, or sexual violence [22]. The 2011 Uganda Demographic and Health Survey reported a 41% overall prevalence of intimate partner physical violence (IPPV) [23]. This rate included 25% who had experienced physical violence and 21% who had experienced sexual violence within the 12 months before the survey. Interpersonal violence is a broad term that refers to violence between family members and intimate partners, as well as violence between acquaintances and strangers. In the Caribbean, 70.9% of respondents reported having experienced interpersonal violence, which was most commonly caused by an intimate partner (62.8%) [24].

Kwagala et al. [25] analyzed the 2011 Uganda Demographic and Health Survey data for empowerment, partner's behaviors, and intimate partner physical violence (IPPV) among married women in Uganda. These investigators advised a two-fold approach to reduce IPPV in this country. First, men should be targeted to address excessive alcohol intake. Second, efforts should be made to raise awareness of IPPV and encourage a sense of security within relationships. Excess consumption of alcohol and relationship insecurities are both indicative of disempowerment. Consequently, empowerment programs must involve both men and women if they are to succeed.

It might have been anticipated that women with PFD would experience higher rates of IPV than women without PFD; however, the present study found no such between-group difference. Indeed, the overall rates of IPV reported in the present study were consistent with those of the 2011 Uganda Demographic and Health Survey [23]. The current observation that Ugandan women with PFD were not at increased risk of IPV when compared with Ugandan women without PFD might have reflected isolation from intimate partners owing to their condition. Thus, Ugandan women with PFD were exposed to no more than the already high rate of IPV within the general population. In addition, intimate partners had elected to remain with the women affected by PFD.

A limitation of the present study was the fact that the control group did not include any women who had no need to attend Kagando Hospital. Surveying a random population of women living in the community could improve the accuracy of the baseline statistics for IPV. In addition, the present study examined only 214 women with PFD. Increasing the size of this group could strengthen the observed results.

In conclusion, women living in western Uganda experienced high rates of IPV; however, the recorded rates did not differ between women with PFD and women without PFD. This type of violence can lead to numerous adverse acute and chronic physical and emotional consequences. Therefore, community awareness, education regarding IPV, and strategies to reduce IPV rates are now required to combat this issue in Uganda.

Author contributions

HK and JG contributed to the study design, study planning, and writing of the manuscript. S-KN contributed to data analysis and writing of the manuscript. IS, EK, and HN contributed to data collection, data interpretation, and the content of the manuscript.

Conflicts of interest

The authors have no conflicts of interest.

References

[1] World Health Organization. Responding to intimate partner violence and sexual violence against women. WHO clinical and policy guidelines. 2013. apps.who.int/iris/bitstream/handle/10665/85240/9789241548595_eng.pdf. Accessed November 24, 2018.

[2] Australian Bureau of Statistics (ABS). Australian Bureau of Statistics (2013) Personal Safety, Australia 2012, Cat. No. 4906.0, Australian Bureau of Statistics (ABS), Canberra. www.abs.gov.au/ausstats/abs@nsf/mf/4906.0. Accessed November 24, 2018.

[3] Bauer NS, Gilbert AL, Carroll AE, Downs SM. Associations of early exposure to intimate partner violence and parental depression with subsequent mental health outcomes. *JAMA Pediatr.* 2013;167:341–347.

[4] Ellsberg M, Jansen HA, Heise L, Watts CH, Garcia-Moreno C. Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: an observational study. *Lancet*. 2008;371:1165–1172.

[5] Dichter ME, Cerulli C, Bossarte RM. Intimate partner violence victimization among women veterans and associated heart health risks. *Womens Health Issues*. 2011;21:S190–194.

[6] Campbell JC. Health consequences of intimate partner violence. *Lancet.* 2002;359:1331–1336.

[7] Humphreys J, Cooper BA, Miaskowski C. Occurrence, characteristics, and impact of chronic pain in formerly abused women. *Violence Against Women*. 2011;17:1327–1343.

[8] Sherin KM, Sinacore JM, Li X, Zitter RE, Shakil A. HITS: a short domestic violence screening tool for use in a family practice setting. *Fam Med.* 1998;30:508–512.

[9] Brown JB, Lent B, Schmidt G, Sas G. Application of the Woman Abuse Screening Tool (WAST) and WAST-Short in the Family Practice Setting. *J Fam Pract*. 2000;49:896–903.

[10] Feldhaus KM, Kozoil-McLain J, Amsbury HL, Norton IM, Lowenstein SR, Abbott JT. Accuracy of 3 brief screening questions for detecting partner violence in the emergency department. *JAMA*. 1997;277:1357–1361.

[11] Weiss SJ, Ernst AA, Cham E, Nick TG. Development of a screen for ongoing intimate partner violence. *Violence Vict*. 2003; 18: 131–141.

[12] Bump RC, Mattiasson A, Bo K et al. The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction. *Am J Obstet Gynecol*. 1996;75:10–17.

[13] Krause HG, Natukunda H, Singasi I, Hicks SS, Goh JT. Treatment-seeking behaviour and social status of women with pelvic organ prolapse, 4th-degree obstetric tears, and obstetric fistula in western Uganda. *Int Urogynecol J*. 2014;25:1555–1559.

[14] Iskandar L, Braun K, Katz AR. Testing the Woman Abuse Screening Tool to identify intimate partner violence in Indonesia. *J Interpers Violence.* 2015;30:1208–1225.

[15] Rabin RF, Jennings JM, Campbell JC, Bair-Merritt MH. Intimate partner violence screening tools. A systematic review. *Am J Prev Med*. 2009;36:439–445.

[16] MacMillan HL, Wathen CN, Jamieson, et al. Screening for intimate partner violence in health care settings. A randomized trial. *JAMA*. 2009;302:493–501.

[17] O'Doherty L, Hegarty K, Ramsay J, Davidson LL, Feder G, Taft A. Screening women for intimate partner violence in healthcare settings. *Cochrane Database Syst Rev*. 2015;7:CD007007.

[18] Ramachandran DV, Covarrubias L, Watson C, Decker MR. How you screen is as important as whether you screen: a qualitative analysis of violence screening practices in reproductive health clinics. *J Community Health*. 2013;38:856–863.

[19] Straus MA, Hamby SI, Boney-McCoy S, Sugarman DB. The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *J Fam Issues*. 1996;17:283–316.

[20] Iverson KM, King MW, Resick PA, Gerber MR, Kimerling R, Vogt D. Clinical utility of an intimate partner violence screening tool for female VHA patients. *J Gen Intern Med*. 2013;28:1288–1293.

[21] Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts HC. Prevalence of intimate partner violence findings from the WHO multi-country study on womens health and domestic violence against women. *Lancet*. 2006;368:60–69.

[22] Laisser RM, Nystrom L, Lindmark G, Lugina HI, Emmelin M. Screening of women for intimate partner violence: a pilot intervention at an outpatient department in Tanzania. *Global Health Action*. 2011;4:7288.

[23] UBOS and ICF International: Uganda Demographic and Health Survey 2011. Kampala, Uganda: UBOS and Calverton, Maryland: ICF International INC; 2012. https://dhsprogram.com/pubs/pdf/fr264/fr264.pdf. Accessed November 24, 2018.

[24] Le Franc E, Samms-Vaughan M, Hambleton I, Fox K, Brown D. Interpersonal violence in three Caribbean countries: Barbados, Jamaica, and Trinidad and Tobago. *Rev Panam Salud Publica*. 2008;24:409–421.

[25] Kwagala B, Wandera SO, Nduggs P, Kabagenyi A. Empowerment, partner's behaviours and intimate partner physical violence among married women in Uganda. *BMC Public Health*. 2013;13:1112.

Box 1 The Hurt, Insult, Threaten, and Scream (HITS) screening tool for domestic violence [11].

How often does your partner physically hurt you?									
1.	Never	2.	Rarely	3.	Sometimes	4.	Fairly often	5.	Frequently
How often does your partner insult or talk down to you?									
1.	Never	2.	Rarely	3.	Sometimes	4.	Fairly often	5.	Frequently
How often does your partner threaten you with harm?									
1.	Never	2.	Rarely	3.	Sometimes	4.	Fairly often	5.	Frequently
How often does your partner scream or curse at you?									
1.	Never	2.	Rarely	3.	Sometimes	4.	Fairly often	5.	Frequently

Scores range from 4 points to 20 points, with a score ≥10.5 indicating a positive screen for intimate partner violence.

Box 2 The Woman Abuse Screening Tool (WAST) for domestic violence [10].

In general, how would you describe your relationship with your partner:
1. No tension 2. Some tension 3. A lot tension
Do you and your partner work out arguments with:
1. No difficulty 2. Some difficulty 3. Great difficulty
Do arguments ever result in you feeling down or bad about yourself?
1. Never 2. Sometimes 3. Often
Do arguments ever result in hitting, kicking, or pushing?
1. Never 2. Sometimes 3. Often
Do you ever feel frightened by what your partner says or does?
1. Never 2. Sometimes 3. Often
Has your partner ever abused you physically?
1. Never 2. Sometimes 3. Often
Has your partner ever abused you emotionally
1. Never 2. Sometimes 3. Often
Has your partner ever abused you sexually?
1. Never 2. Sometimes 3. Often

Scores range from 8 points to 24 points, with “a lot of tension,” “great difficulty,” and “often” each scoring 3 points. The standard cut-off score for positive screening is 13. This tool can be used as a two-part screen. If the respondent gives “a lot of tension” or “great difficulty” as their answer to the first two questions, then the interviewer completes the remaining six questions. Thus, the first two questions comprise a short version of WAST.

Table 1 Incidence of intimate partner violence among the study population (n=312).[a]

Screening tool (cut-off score)	Obstetric fistula group (n=75)	Unrepaired OASIS group (n=85)	Severe POP group (n=54)[b]	Control group (n=98)	PFD group (n=214)[c]
WAST (13.0)	27 (36.0)	29 (34.1)	17 (31.5)	44 (44.9)	73 (34.1)
HITS (10.5)	13 (17.3)	17 (20.0)	9 (16.7)	16 (16.3)	39 (18.2)
WAST (13.0) and/or HITS (10.5)	28 (37.3)	30 (35.3)	17 (31.5)	44 (44.9)	75 (35.0)
WAST (13.0) and HITS (10.5)	12 (16.0)	16 (18.8)	9 (16.7)	16 (16.3)	37 (17.3)
WAST (10.0)	44 (58.7)	52 (61.2)	23 (42.6)	79 (80.6)	119 (55.6)

Abbreviations: HITS, Hurt, Insult, Threaten, and Scream; OASIS, obstetric anal sphincter injuries; PFD, pelvic floor dysfunction; POP, pelvic organ prolapse; WAST, Woman Abuse Screening Tool.

[a]Values are given as number (percentage).

[b]Defined as stage 3 or 4.

[c]Includes obstetric fistula, OASIS, and severe POP.