

Intimate partner violence among HIV infected and uninfected pregnant women delivering at a national hospital in Tanzania: Using a modified screening tool

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Abstract

Background: Worldwide Intimate Partner Violence (IPV) is a major public health problem, affecting all women and vulnerable groups such as HIV-infected women. This study aimed to test the applicability of assessment of IPV using a simple screening tool, among women giving birth at Muhimbili National Hospital in Tanzania, to estimate the prevalence and severity of IPV among HIV-infected and uninfected pregnant women, and to assess the odds of IPV among both groups of women.

Methods: A questionnaire including screening questions was applied to women delivered at Muhimbili National Hospital to identify those that experienced IPV. Demographics, HIV status, male partner's alcohol use and sexual behaviour data were also collected. Mean age and proportions of IPV in different groups were calculated. Odds of IPV were estimated using univariate logistic regression.

Results: Majority of women (69%) experienced emotional or physical violence, and 31% experienced sexual violence. Sixty-five percent reported a lifetime prevalence of physical, emotional or sexual violence. Majority (82%) of partners of women that experienced IPV were reported as almost solely offenders in sexual violence rather than in emotional or physical violence (44%). Most participants (88%) experienced repeated emotional and physical violence. Regardless of offenders, repeated sexual violence in the preceding year (85%) was more common than physical violence (47%). Experience of IPV in HIV-positive women was comparable to the HIV-negative counterparts.

Conclusion: A simple proposed tool detected women experienced IPV before and during pregnancy but found comparable rates of violence between HIV positive and negative women.

Keywords: violence, sex-based, pregnancy, HIV, intimate partner, Tanzania

Introduction

Intimate Partner Violence (IPV) cause not only health and socioeconomic consequences but also cumulative impact of violence in women's life span (Ellsberg *et al.*, 2008; Garcia-Moreno *et al.*, 2016). A recent community-based survey indicates that 40% of women aged 15-49 years have ever experienced physical violence and 17% have ever experienced sexual violence in Tanzania (TDH-MIS, 2016). Half of all ever-married women were also reported to have ever experienced spousal violence, most commonly physical (39%) and emotional violence (36%); 14% have experienced sexual violence. However, the survey did not capture information regarding IPV among pregnant women, even though health impacts of IPV has been shown elsewhere to include those during pregnancy (Jewkes *et al.*, 2006). Studies from high and middle-income countries have estimated the prevalence of IPV in pregnancy ranging from 3.9% to 8.3%. Reluctance to disclose IPV, has highly contributed to inaccurate estimation of its prevalence, especially among pregnant women therefore, prevalence of IPV in pregnancy could be even higher (Maman *et al.*, 2010).

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IPV has increasingly been associated with a range of adverse reproductive and sexual health outcomes, including low birth weight, preterm labour, and maternal loss of weight, urinary tract infection, miscarriage, foetal wastage, caesarean delivery, and HIV infection (Stöckl *et al.*, 2010). Despite the fact that of some adverse perinatal outcomes being more common than some severe maternal health conditions (e.g. pre-eclampsia, placenta previa), IPV receives considerably less attention within perinatal care (Van Parys *et al.*, 2014).

It was reported that 76.7% of pregnant women attending Antenatal Clinic at Muhimbili National Hospital in Tanzania, had symptoms of anxiety and 78.2% had symptoms of depression, whereas 4.9% had moderate/severe post-traumatic stress disorder (PTSD) in pregnancy (Mahenge *et al.*, 2015). Similarly, HIV infection rates are directly proportional to severity of IPV among pregnant women (Maman *et al.*, 2002) hence, has greater influence on pregnancy outcome than women's age, socioeconomic status, and number of live born children. Despite the evidence of association between IPV and pregnancy risk and, poor outcome; strict measures have not been introduced into maternal and child health care to curb the problem in Tanzania. Furthermore, even though voluntary HIV counselling and testing is part of antenatal screening, Reproductive and Child Health care registration and follow up card (RCH4) has not yet included screening for IPV in pregnancy. This study aimed to test the applicability of assessment of IPV using a simple screening tool, among women giving birth at Muhimbili National Hospital, to estimate the prevalence and severity of IPV among HIV-infected and uninfected pregnant women, and to assess the odds of IPV among both groups of women.

Materials and Methods

Study area

This cross-sectional study was conducted at Muhimbili National Hospital (MNH). The hospital is situated in Dar es Salaam, a city with a population of about 4.5 million and an annual population growth rate of 4.3%. It serves as a referral centre for the city and the neighbouring coastal region. The annual number of births at the hospital is about 10,000 (approximately 30/day). During antenatal care and/or after delivery at MNH, all women receive counselling to prevent maternal to child transmission of HIV, and voluntary HIV testing, family planning and contraception counselling, health education on puerperal care. The prevalence of HIV in pregnancy at MNH was estimated to be 7-8% (Muhimbili National Hospital, unpublished report), similar to national prevalence of 6-7% (TDHS 2010). At MNH all women who come for delivery without a known HIV status, counselling and testing is routinely done during admission in the delivery room.

Study population and sampling

All women delivering at MNH during between January 2014 to march 2014 were identified and approached for consent to join the study. The minimum required sample size was calculated with assumptions of a rate of IPV of 54% (TDHS 2010) and acceptable margin of error of 5%. A survey questionnaire that included a screening tool for IPV was administered to all study subjects. Most women delivering at MNH consent to voluntary HIV counselling and testing during antenatal care, and the majority of those found to be HIV-positive have an identification code on their antenatal care (ANC) cards, allowing research staff to identify them.

The questionnaire included four sections that covered demographics, HIV status, IPV experience (screening tool), and details on IPV in pregnancy. The screening tool was a modification of the Abuse Assessment Screen tool developed by McFarlane *et al.* (1992). It included four questions focusing on the experience of emotional, physical and sexual violence. Items in the original tool by McFarlane *et al.* (1992) asked participants to rank abuse episodes and to respond to questions related to pregnancy. The modifications made to the original tool included rephrasing the main question to be more open-ended, with insertion of an additional response "cannot tell" to determine the women's attitude towards reporting abuse; removal of a

question not related to our study which specifically concerned abuse during pregnancy; and questions assessing IPV exposure during pregnancy, including ‘Has your partner threatened you verbally..., during this pregnancy?’ ‘Has any of your sex partners ever...’ and ‘in the last 12 months, has your husband/partner...’ ‘Threatened you verbally?’, ‘slapped you?’, ‘hit you with fists?’, ‘threw you to the ground or kicked you with his feet?’, ‘choked you?’ or ‘burned you or poured a hot liquid on you?’ The tool was also made to assess risk of IPV by inquiring about partner’s alcohol drinking and behaviour of having multiple sexual partners, both behaviours stand as risks of IPV. A response of ‘yes’ to any of these questions was coded as 1, and 0 when none of these experiences were reported. These items have been identified to constitute IPV in previous studies in other settings (Zink *et al.*, 2007). The modified tool was previously piloted in a similar context at Temeke district Tanzania. The questionnaire was drafted in English and was translated into Kiswahili, the national language.

Data collection

A team of four research assistants was trained to acquire consent and administer the questionnaire to the participants. The questionnaire was pre-tested with 30 pregnant women and refined. A research assistant identified eligible participants from the midwifery book and compared the list with case notes to avoid missing a case. Each research assistant used a private room for consenting and interview. Data collection took place from 8:00 hr to 16:00 hr. for participants who delivered normally before they were discharged from the hospital (usually 6 hours after delivery). Specifically, interviews were done off visiting hours in the afternoon from 12.00 hr to 13.00 hr with an intention of assuring privacy and freedom of participants to open up during interview and further minimize the risk of stigmatization. During the consenting process, participants were allowed to opt for an assistant/company.

Data analysis

Data were entered and analysed with PASW Statistics, Version 18. The quality of data was ensured by thoroughly examining each questionnaire on the day of data collection and returning to the respondent before she is discharged. Ante-natal care clinic cards and post-delivery ward logbooks were at times used to verify information that was incomplete or suspected to be incorrect. The mean age and proportions of IPV in different groups were assessed, and the bivariate odds of physical IPV were estimated using logistic regression analysis. The level of significance was set at $P < 0.05$.

Ethical considerations

Ethical clearance was granted by the Muhimbili University of Health and Allied Sciences Research and Publication Committee, and permission to conduct the study was granted by the MNH executive director. The interviews were conducted with utmost privacy and before being interviewed they were informed about the research and their participation rights then asked to sign a written consent form.

Results

During the study period 372 participants were eligible for the study and were recruited. Their mean age was 28.2 years. Seventeen (4.6%) were adolescents, who had an almost an equal distribution on HIV status. The majority of participants were aged 20–29 years. Married or cohabiting women were 283 (90%), of which almost 60% were married. Among married participants, a minority (19.3%) were HIV-infected. Overall, less than one-third of participants were HIV infected (Table 1).

Tables 1. Sociodemographic characteristics of the participants

	Characteristic	HIV-positive N = 93	%	HIV-negative N = 279	%	Total N = 372	%
Age group	< 20	8	47.1	9	52.9	17	4.6
	20–29	59	28.5	148	71.5	207	55.6
	30–39	24	17.4	114	82.6	138	37.1
	≥ 40	2	20.0	8	80.0	10	2.7
Marital status	Single	29	32.6	60	67.4	89	23.9
	Married	43	19.3	180	80.7	223	60.0
	Cohabiting	21	34.5	39	65.5	60	16.1
Education	Illiterate	5	26.3	14	73.7	19	5.1
	Primary	41	26.1	117	73.9	158	42.5
	Secondary	35	24.5	108	75.5	143	38.4
	College	12	23.1	40	76.9	52	14.0
Parity	1	56	60.2	109	39.3	165	44.3
	> 1	37	39.8	170	61.7	207	55.7
Gestational age	Preterm (< 37 weeks)	13	17.8	61	82.2	74	19.9
	Term (> 37 weeks)	80	26.8	218	73.2	298	80.1

Table 2. Responses of the participants as regards to their experiences of violence

Item	Yes	%
Have you ever emotionally/physical been hurt by anyone in your lifetime? If yes, by whom?	244	65.6
Relative	26	10.65
Husband/partner	50	20.5
Other	100	41.0
Can't name them	68	27.9
Total number of times		
1 time	29	11.9
> 1 time	215	88.1
Within the last year, have you been hit, slapped, kicked or physically hurt by someone? If yes, by whom?	88	23.7
Relative	0	0
Husband/partner	39	44.3
Other	5	5.7
Can't name them	44	50.0
Total number of times		
1 time	46	52.3
> 1 time	42	47.7
Within the last year has anyone forced you to engage in sexual activities? If yes, by whom?	40	10.8
Relative	1	2.5
Husband/partner	33	82.7
Other	4	10.0
Can't name them	2	5.0
Total number of times		
1 time	6	15
> 1 time	34	85
Are you afraid of any of the people you mentioned above?		
Yes	37	92.5
No	3	7.5

Of the 372 women screened for IPV, 244 (65.6%) reported a lifetime prevalence of physical, emotional or sexual violence (Table 2.) Hundred and twenty-eight (36%) of these women were

violated in the preceding 12 months, where emotional or physical violence 88/128 (69%) was commoner compared to sexual violence 40/128 (31%). Less than a quarter of those experienced violence 50/244 (20.5%), identified their husbands as offenders. Husbands were almost solely offenders in sexual (33/40; 82%) rather than emotional or physical IPV (39/88; 44%). Majority of participants 215/244 (88.1%) experienced repeated emotional and physical violence, however, repeated sexual violence in the preceding year 34/40 (85.0%) was more common than physical violence 42/88 (47.7%), regardless of violator.

Experience of IPV in HIV-positive women was comparable to the HIV-negative counterparts (Table 3). HIV positive compared to HIV negative women had no significant difference in experiencing verbal threats (30.8% vs 21.5%; OR =1.39, 95% CI [0.77-2.49]), and physical violence including slapping (11.8% vs 6.8%, OR = 1.98, 95% CI [0.91, 4.31]), choking, kicking and, throwing on the ground (5.4% vs 1.4%, OR=2.91,95%CI [1.03-14.80]). Similarly, experience of sexual violence was comparable between HIV- positive (19.4%) and HIV-negative women (12.5%) (OR= 1.67, 95%CI [0.90-3.21]). The rate of HIV positive women who had partners with multiple sexual partners was comparable to that of HIV negative counterparts (33.3% vs 37.6%, OR=0.83, 95% CI [0.51-3.16]). The percentage of HIV positive women (51.6%) with husband who drink alcohol was also comparable to that of HIV negative (60.2%) counterparts (OR=0.77, 95%CI [0.44-1.13]). The likelihood of history of poor pregnancy outcome including abortion (OR=0.04, 95%CI [0.65-1.66]), and intrauterine foetal death (OR=0.33, 95%CI [0.10-1.00]) was comparable between HIV positive and negative group.

Table 3. Percentage of risk and experience in pregnancy and. history of poor pregnancy outcome by HIV status of the studied group

Item	Response	HIV-positive	%	HIV- negative	%	OR	95% CI																																																																																																																																																										
Has your partner/husband ever threatened you verbally during this pregnancy?	Yes	20	21.5	46	16.5	1.39	0.77–2.49																																																																																																																																																										
	No	73	78.5	233	83.5			Has your partner/husband ever threatened you verbally in the last 12 months?	Yes	15	16.1	35	12.5	1.34	0.7–2.58	No	78	83.9	244	87.5	Has your partner/husband ever slapped you before or during this pregnancy?	Yes	11	11.8	19	6.8	1.98	0.91–4.31	No	82	86.2	260	93.2	Has your partner/husband ever choked you, kicked you or thrown you to the ground before this pregnancy?		6	6.5	20	7.2	0.95	0.37–2.43		87	93.5	259	92.8	During this pregnancy has your partner/husband ever choked you, kicked you with his feet or thrown you to the ground?	Yes	5	5.4	4	1.4	3.91	1.03–14.80	No	88	94.6	275	98.6	During this pregnancy, has your partner/husband ever burned you or poured a hot liquid on you?	Yes	0	0	0	0			No	93	100	279	100	During this pregnancy or before, has your partner/husband ever forced you to engage in sexual intercourse against your will?	Yes	18	19.4	35	12.5	1.67	0.90–3.12	No	75	80.6	244	87.5	Were you ever sexually abused before age 18?	Yes	41	44.1	109	39.4	1.22	0.76–1.95	No	52	55.9	170	60.6	Has your partner/husband had other female partners/wives?	Yes	31	33.3	105	37.6	0.83	0.51–1.36	No	62	66.7	174	62.4	Does your partner drink alcohol?	Yes	48	51.6	168	60.2	0.70	0.44–1.13	No	45	48.4	111	39.8	Outcome of past pregnancies								• Delivered a live term baby		10	10.8	33	11.8	0.85	0.40-1.81	• Aborted at 3 months		47	39.8	138	53.1	0.04	0.65–1.66	• IUFD		4	4.3	32	7.9	0.33	0.11-1.00	• Not applicable*		32	45.2	76
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Key: IUFD= intrauterine foetal death

Discussion

Through a simple screening tool (Mcfarlane *et al.*, 1992), we identified IPV among parturient delivered at National Hospital, of which more than three quarters experienced sexual IPV and a quarter had emotional and physical IPV. Prevalence of detected violence was much higher than that of other studies using patients' self-reported assaults (Laisser *et al.*, 2011; CDC, 2011). The higher rates of IPV could be as a result of high percentage of married and cohabiting parturient. Previous evidence demonstrated (Laisser *et al.*, 2011; Grooves, 2014) increased prevalence of IPV at the age of reproductive age which also formed the majority of our studied group. Despite the relatively high rate of IPV, this study might have underestimated rates due to unwillingness to disclose experience of violence. As demonstrated previously (Zink *et al.*, 2007), we found more than half of the studied group withholding the identity of physical and sexual offenders; fear was one of the main reasons for concealing the perpetrators. Failure to disclose the perpetrators has been associated with cultural differences, economic dependence on the offender, and feelings of failure and promises of change by the perpetrator (Rees *et al.*, 2014; Wagman *et al.*, 2015).

Barriers to disclosing violence, of any form, may leave women feeling isolated, lack of support and wishing someone would provide services that would enable them to have a life without abuse. Failure of disclosure also presents difficulties in identifying women experiencing any form of violence and hence, bringing about a need for a simple screening tool. One study has suggested that there may not be a perfect screening question; instead, it may be caring, listening and tailoring questions specific to the woman's situation that will generate disclosure (Zink *et al.*, 2017). If women are given the opportunity to disclose IPV, and understand that there are resources available to them, disclosure could save their lives and the lives of their unborn children. Many national medical organizations, governmental agencies and advocacy groups have recommended universal or routine IPV screening; however, there is still lack of sufficient evidence on effective interventions for primary prevention of abuse during women's early years in developing settings. Therefore, IPV screening before, during and after pregnancy could be an opportunity to the increased detection of victims and referrals, which can potentially protect the health of the mother and unborn child, and increase awareness of IPV among both care givers and women in the community.

We found that recent repeated sexual violence was commoner than emotional and physical IPV. However, comparable risk of IPV in alcohol abuse and HIV infection was contrary to previous study findings (Harling *et al.*, 2010; Medley *et al.*, 2014). Lack of statistical significant difference in IPV between HIV positive and negative parturient did not exclude psychosocial, clinical and cost implications of IPV to individual, family and the health system. We think that identification of IPV in 30% women who concomitantly suffered from HIV infection warranted a deeper analysis of IPV and HIV infection in local context. These should include assessment of risk of HIV infection associated with sexual assault, as form of IPV and psychosocial barriers of control in sexual health including sexual dominance and submission and alcohol abuse. High perinatal morbidity and mortality in the general population might have obscured the difference in rate of poor outcome of both HIV positive and HIV negative women experiencing IPV.

Insufficient statistical evidence to advocate scale-up of IPV interventions and their integration into health systems, has been highlighted as a barrier in screening of IPV (Rees *et al.*, 2014; Wagman *et al.*, 2015; Peterman *et al.*, 2015); However, in order to overcome the intersecting challenges of violence and motherhood, introducing IPV screening among pregnant women during antenatal and post-natal period will cease the unique opportunity of identifying women experiencing IPV within the existing prevention of maternal to child transmission (PMTCT) of HIV program. Furthermore, using the same opportunity a wider and deeper analysis, either qualitatively or quantitatively can be performed to identify appropriate model and protocols in IPV management and referrals for further appropriate care and support within the health

systems. The law should also enforce harsh punishments to the perpetrators of abuse (URT, 2002). Importantly, the law usually fails to help women suffering from IPV because of the secrecy surrounding the problem, hence effective screening help in prevention and appropriate management of IPV.

In this hospital-based study, the magnitude of HIV infection might be under-reported and therefore not representative of the issue in the population at large. Convenient sampling of study participants was a quick method for needs assessment for implementing IPV screening in the existing system. However, sampling by convenience is prone to misrepresentation of the sample and lack of generalizability of results to general population. Our cross sectional study only addressed the association between IPV in pregnancy and HIV infection and identification of the victims, however, deferred in making causal inferences of the associations. In conclusion, a proposed tool detected women experienced IPV before and during pregnancy but found comparable rates of violence between HIV positive and negative women. These findings provided a baseline for further research and demand changes in maternal and child health care system.

Competing interests

The authors declare that there is no competing interest.

Authors' contributions

HLK participated in the design of the study, statistical analysis, interpretation of the data and statistical analysis, preparation of first and final manuscripts. AHM wrote the first and final manuscripts. BE participated in the data interpretation and preparation of manuscript.

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