

Measuring Violence against Women amidst War and Displacement in Northern Uganda Using the 'Neighborhood Method'

Lindsay Stark, MPH¹, Les Roberts, PhD¹, Wendy Wheaton, MIA², Anne Acham, BA², Neil Boothby, EdD¹ & Alastair Ager, PhD¹

(1) Program on Forced Migration and Health, Mailman School of Public Health, Columbia University; (2) ChildFund International (formerly Christian Children's Fund)

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Address for correspondence: Alastair Ager, PFMH, Mailman School of Public Health, 60 Haven Avenue, New York, NY 10032 (email: aa2468@columbia.edu). We acknowledge the valuable contribution of Mike Wessells and the CCF field research team in conducting the reported study, and of Ann Warner in analysis of data. The work was conducted with respect to CUMC IRB determination AAAB7134. The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive license (or non-exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd and its Licensees to permit this article to be published in *Journal of Epidemiology and Community Health* editions and any other BMJ PGL products to exploit all subsidiary rights, as set out in our license <http://jech.bmj.com/ifora/licence.pdf>.

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ABSTRACT

Background

Gender-based violence is viewed as a significant problem in conflict-affected regions throughout the world. However, humanitarian organizations typically have been unable to reliably estimate the incidence of rape, intimate partner violence and other forms of sexual abuse in such settings. Such estimates are required to inform programming in contexts such as Northern Uganda.

Methods

We sought to establish incidence rates for gender-based violence in internally displaced persons (IDP) camps in Northern Uganda. The assessments involved a 'neighborhood methodology', in which adult female heads of household reported about their own experience, their sisters' experiences, and their neighbors' experiences. 299 households were selected for interview across four camps using systematic random sampling.

Findings

Interviews were completed by 204 respondents (5 women having declined interview and 90 not having been successfully contacted). These respondents reported on themselves, a total of 268 sisters and 1206 neighbors. Reports with respect to these alternative populations produced estimates of overall incidence of intimate partner violence in the past year of 51.7 % (95% CI 44.8-58.7; respondents), 44.0% (41.2-46.9; respondents' sisters) and 36.5% (30.7-42.3; respondents' neighbors) respectively. In the same period estimates of incidence of forced sex by husbands were 41.0% (95% CI 34.2-47.8), 22.1% (17.0-27.2) and 25.1% (22.5-27.6) respectively, with incidence of rape by a perpetrator other than an intimate partner estimated at 5.0% (95% CI 2.0-8.0), 4.2% (1.8-6.6) and 4.3% (3.1-5.5) respectively.

Interpretation

Gender-based violence – particularly intimate partner violence – is commonplace in post-conflict Uganda. The 'neighborhood method' provides a promising approach to estimating human right violations in humanitarian settings.

Introduction

Violence against women is thought to be one of the most prevalent human rights violations in the world, despite the fact that it is considered underreported almost everywhere.¹ It is also a documented public health concern that depletes women's energy, compromises physical health and lowers self-esteem.^{2 3 4 5 6} It has been linked to a number of long-term risks that include chronic pain, physical disability, drug and alcohol abuse and depression. Women with a history of physical or sexual abuse are also at increased risk for unintended pregnancy, sexually transmitted infections (STIs), HIV, suicide, gynecological disorders and adverse pregnancy outcomes.^{7 8 9 10 11 12}

Survivors of sexual violence commonly rely on friends, relatives and other social networks for emotional support and material assistance as opposed to more formal mechanisms such as the police and justice system.^{13 14} It is widely understood that complex emergencies -- characterized by instability, violence, splintering of family and community, shattered social trust and a breakdown in law and order -- cause survivors of sexual violence to be even less likely to report incidents through formal mechanisms.^{15 16} Legal instruments such as the Convention on the Elimination of Discrimination against Women have set forth important tenets that include non-discrimination and the right to be free from sexual abuse and exploitation.¹⁷ Ensuring the protection and well-being of women according to the basic principles agreed upon by the international community is a fundamental humanitarian concern.

It is recognized that data typically used to inform programming is flawed and underestimates the true scope of the problem. Methods to reliably estimate the incidence of gender-based violence in such settings have generally been inadequate. It is rare that a household survey or another population-based method is undertaken to measure rape and assault.¹⁸ In the past, when these types of efforts have been attempted, they have usually been linked to larger reproductive health or other demographic and health studies.^{19 20} This grouping of issues has been shown to reduce the reliability of the responses.²¹ Even if not grouped with other issues, a large household survey is lengthy, expensive, and tends to be cursory and impersonal, often missing important nuances and contextual factors.²²

As a result of these measurement challenges, rape and assault figures tend to reflect reported cases and do not rely on population-based estimates.²³ Fear, stigma, and norms of secrecy, compounded with the difficulties of displacement create barriers to understanding the full magnitude and impact of gender based violence.

All of these factors are potentially masking the realities of violence against women and girls in Northern Uganda, where armed conflict has displaced more than 1.4 million people.²⁴ For decades, the Lord's Resistance Army (LRA) waged a brutal guerrilla war against the Government of Uganda and civilians living in the north of the country. The nearly twenty years of warfare turned Northern Uganda into a humanitarian tragedy with hundreds of thousands of individuals languishing in more than 150 camps for the internally displaced. Displacement has proved difficult. Economic activities have been stifled, causing many families to become dependent upon the World Food Program's food distribution program. Clean water and medical care have also been scarce in the camps, resulting in high rates of malnutrition, malaria, and tuberculosis.²⁵ The families displaced by the LRA are slowly returning to their rural homes, but the pace of return and reconstruction activities have been frustratingly slow.

The conflict in Northern Uganda has also reinforced social and cultural factors that are thought to perpetuate violence against women. A culture of impunity remains regarding certain forms of gender based violence which are not understood to constitute any violation of the rights of women and girls. After years of violence, Uganda is finally engaged in a meaningful peace process, but the country continues to struggle with remnants of the systematic violence of war and displacement. Gender-based violence presents an ongoing hindrance to peace and redevelopment, and must be addressed as a central component of rebuilding effective health systems, supporting societal reconstruction and fostering reconciliation.^{26 27}

It was in this context that the Program in Forced Migration and Health at Columbia University and Christian Children’s Fund (CCF) undertook a study to measure the incidence of violence against women across four camps for internally displaced persons (IDPs) in Lira District. Research objectives included providing information on the magnitude and nature of physical violence against women and girls relevant both for program development and advocacy; and providing a baseline against which to measure change over time.

Methods

Participants

Four camps were selected for the study - Aromo, Ayami, Walela and Okwang - based on their not having been the focus of gender-based violence interventions by CCF or any other agency, but having been proposed for possible interventions subsequent to investigation. Houses were selected at random and adult female heads of household were interviewed. Women gave informed verbal consent to trained interviewers. Respondents were asked about their own experience, their sisters’ experiences and their neighbors’ experiences of sexual violence.

The development of the method was based on the premise that key informants have been shown, in certain studies of sensitive public health behaviors, to provide equally – and in some instances more - valid and reliable information than is obtained through self-report.²⁸ Sisters were chosen based on the fact that this population has been shown to be reliable informants on topics such as maternal mortality.²⁹ Neighbors were hypothesized to be good key informants based on the close proximity of living quarters in the camp setting.

No identifying information was collected on the respondent or any of the other households she discussed. Maintaining the confidentiality of those who spoke with the researchers and those they spoke about was a cause of major concern. Interviewees were told that their or their neighbors’ names would not be recorded. While first names were used to distinguish neighboring women, for the interview discussion the first names were written on a sticker on the data form. At the end of the interview, the stickers were torn off in front of the interviewee and ripped-up to demonstrate that no names were on the forms or were kept.

Table 1: Demographic Profiles of the Four Studied Camps

Camp	Aromo	Ayami	Walela	Okwang
Total Population	24828	9068	7200	6348
Males	12006	4464	Not known	2539
Females	12094	4604	Not known	3809
Households	5407	2022	Not known	1269

Sampling

For sampling purposes sought event prevalence was assumed to be 10%, setting a precision of 5% and a power of 80%. This sought prevalence was a conservative estimate drawn from a structured review of prevalence studies of gender based violence in humanitarian settings.³⁰ Based on each respondent providing data on at least four neighbors, a minimum sample size of 34 adult female heads of household per camp was determined using Epi Info™. Anticipating refusal of consent and other sampling losses, a sample size of 48 participants per camp was targeted. Based upon estimates of number of households within the camps, a sampling interval of 60 was determined. Researchers visited in turn each of the administrative blocks by which housing was grouped within the camps. Sampling involved random selection (using a random number sequence) of one of the first sixty houses within each block. Interviewers then went to every 60th house after that house, following the numbered lines of houses through the block, until the block had been fully covered. If no adult female was available for interview at a selected household, interviewers noted this and passed to the adjacent house. If no adult female was present at three consecutive houses, interviewers passed to the next household indicated by the sampling strategy.

Training and Definitions

Five local female social workers with experience working with survivors of gender-based violence were selected for training in the study protocol. Training involved structured review of the components of the protocol, role play and pilot interviewing. It focused on consistency in the application of the interview protocol and coding, and addressed issues of sensitivity in probing on the topics of rape and intimate partner violence (IPV). Training also considered local language usage and definitions with respect to relevant terms, notably: intimate partner violence (defined as physical beating by someone living in the household), marital rape (defined as forced sex with an intimate partner through the use of physical violence, threat, or other coercion) and rape (defined as sexual intercourse, or attempted sexual intercourse, without consent by someone other than a husband or intimate partner). These categories of abuse were selected for this study because it was hypothesized that individuals living outside of the home would be likely to know about them – either due to the salience of the type of violence or due to the fact that neighbors would be aware of fights and incidents of violence due to the close proximity of homes in the camp. It was considered that other categories of abuse, such as economic and psychological abuse, would be less effectively captured by this method, and these were thus excluded from the protocol.

Interview Protocol

Interviewers approached selected households, introduced themselves, explained the purpose of the study, and then requested consent to proceed with the interview. Those giving consent were invited to accompany the interviewer to a more secluded location away from the household. Participants were asked to identify the 4 to 6 neighbors living in adjacent households. Neighbors were selected by the interviewer based on their proximity to the participant's house. Due to the layout of the camps, where dwellings are clustered tightly together, neighbor's houses were generally within 50 meters of the respondent's home.

Participants were also asked to identify any sisters who were living in the camp or other camps within the sampling frame. The first names of the interviewee, sisters and neighbors were recorded on stickers on the interview response sheets which were later removed to ensure that data could not be traced back to any individual.

The interview was structured as a conversation, not as a rigid questionnaire. It began by asking respondents to identify what they saw as the biggest challenges facing women and girls in their community. This generally led to women raising issues of violence, though the interviewer prompted this theme if it was not raised initially by women. The interviewer then continued by asking with respect to each neighbor in turn whether the respondent was aware of that neighbor having experienced any incident of intimate partner violence in the last year (the reference point for recall was 'since last Christmas'). If any incident was reported, a brief narrative account and key details of the incident were noted on the interview response sheet. This procedure was then followed for any sisters that the participant had reported as living in the camp or adjacent camps. The participant was next asked if she herself had experienced any incidents of intimate partner violence in the last twelve months.

The interviewer next proceeded to ask about the experience of rape, including marital rape. The interviewer began by asking with respect to each neighbor in turn whether the participant was aware of their having experienced rape in the last year. If any incidents were reported, a brief narrative account of the circumstances was noted on the interview response sheet. This procedure was then followed for any sisters and, finally, for the woman herself.

At the end of each interview, interviewers would share information on where women could seek services for gender based violence. Staff of the project revisited communities within two weeks of the interviews to check on any issues that had arisen as a result of the survey. Additionally, all sites had a CCF-affiliated psychosocial point person in case a woman wanted to speak with someone following the interview.

Statistical testing, comparing incidence rates between respondents, sisters and neighbors relied on chi-squares, calculated using Stata® statistical software. For incidence rates, 95% confidence intervals were determined using Excel and SPSS, version 14.0.

Role of the funding source

The funders of this study played no role in the collection, analysis and interpretation of data; in the writing of the report; nor in the decision to submit the paper for publication.

Results

Participation and characteristics of respondents

Of 299 households approached, 90 (30.1 %) were unavailable and 5 (1.7 %) refused to participate. In all, 204 respondents took part in the study. The respondents' ages ranged from 16 to 57, with a mean age of 30.8 (SD=8.66) years. In all, 72.1% were married, 2.9% divorced or separated, 12.7% widowed and 3.4% were single. 8.8% did not provide any information on marital status. Across the four camps, these respondents reported on the experiences of 268 sisters and 1206 neighbors.

Table 2: Survey Participants By Camp

Camp	Aromo	Ayami	Walela	Okwang
Participants	46	53	46	59
Listed Neighbors	272	312	271	351
Listed Sisters	70	60	61	77
Unavailable	27	36	18	9
Consent Declined	0	4	0	1

Incidence of Violence

When asked, at the beginning of the interview, about the major issues facing women and girls in the camp, 57.8% of respondents spontaneously mentioned intimate partner violence and 22.5% spontaneously mentioned rape.

Subsequently, 51.7 % (95% CI 44.8-58.7) of respondents reported that they had experienced intimate partner violence in the previous year. Of those respondents, 89.4% were married, 2.9% were divorced, 3.8% were widowed and 3.8% provided no response on marital status. Women who were married, divorced or separated were significantly more likely to report intimate partner violence than single women (chi-square=37.1, df:4, p<.001). Women who suffered intimate partner violence also tended to be younger, although this was not statistically significant (p=.095).

Broadly similar rates of intimate partner violence were reported for sisters and neighbors. Across the four camps, respondents reported that 36.5% of sisters (95% CI 30.7-42.3) and 44.0% of neighbors (95% CI 41.2-46.9) had suffered intimate partner violence in the past year. The rates of intimate partner violence reported by camp for respondents, sisters and neighbors is given in Table 3 below.

Table 3: Incidence of Intimate Partner Violence by Camp

	Aromo Camp			Ayami Camp		
	Proportion	95% CI	N	Proportion	95% CI	N
Respondents	52.2%	37.7,66.1	46	50.9%	37.5, 64.4	53
Sisters	40.6%	29.0, 52.2	69	20.0%	9.9, 30.1	60
Neighbors	41.3%	35.3, 37.4	259	42.1%	36.6, 47.6	309
	Walela Camp			Okwang Camp		
	Proportion	95% CI	N	Proportion	95% CI	N
Respondents	58.7%	44.5, 72.9	46	46.4%	33.4, 59.5	56
Sisters	41.7%	29.2, 54.1	60	41.6%	30.6, 52.6	77
Neighbors	43.7%	37.6, 49.8	254	47.8%	42.7, 53.3	344

In terms of marital rape, 41.0% (95% CI 34.2-47.8) of respondents reported forced sex by an intimate partner. 22.1% (95% CI 17.0-27.2) of sisters and 25.1% (95% CI 22.5-27.6) of neighbors were also reported to have suffered marital rape. 5.0% (95% CI 2.0-8.0) of respondents reported an incident of rape by a non-domestic partner in the past year. 4.2% (95% CI 1.8-6.6) of sisters and 4.3% (95% CI 3.1-5.5) of neighbors were reported to have experienced an incident of such rape in the same timeframe. A full breakdown in reports by camp is given in Tables 4 and 5 below.

Table 4: Incidence of Marital Rape by Camp

	Aromo Camp			Ayami Camp		
	Percentage	95% CI	N	Percentage	95% CI	N
Respondents	37.0	23.0, 50.9	46	28.3	16.2, 40.4	53
Sisters	26.2	15.5, 36.8	65	3.5	0, 8.3	57
Neighbors	41.3	35.3, 47.3	259	42.1	36.6, 47.6	309
	Walela Camp			Okwang Camp		
	Percentage	95% CI	N	Percentage	95% CI	N
Respondents	45.7	31.3, 60.0	46	50.9	37.7, 64.1	55
Sisters	32.2	20.3, 44.1	59	24.7	14.8, 34.5	73
Neighbors	43.7	37.6, 49.8	254	48.0	42.7, 53.3	344

Table 5: Incidence of Rape Outside of Marriage by Camp

	Aromo Camp			Ayami Camp		
	Percentage	95% CI	N	Percentage	95% CI	N
Respondents	6.5	0, 13.7	46	3.8	0, 8.9	53
Sisters	6.1	.3, 11.8	66	6.7	.4, 13.0	60
Neighbors	3.4	1.3, 5.8	253	3.6	1.5, 5.6	309
	Walela Camp			Okwang Camp		
	Percentage	95% CI	N	Percentage	95% CI	N
Respondents	8.7	.6, 16.8	46	5.4	0, 11.3	56
Sisters	5.0	0, 10.5	60	0	0, 0	77
Neighbors	6.3	3.3, 9.3	254	4.1	0, 8.5	344

Variance between Self and Secondary Reporting

The neighborhood method is based on the assumption that respondents can provide valid information on the experience of other female populations. Specifically, in designing the approach, it was assumed that women would know about experiences of sexual violence for neighbors living in close proximity to one another as a result of the cramped living conditions and lack of privacy in the camp setting. It was anticipated that women would also know about experiences of sexual violence for their sisters based on other methods that have relied on patterns of knowledge between family members.²⁹

To check the validity of this assumption, responses of primary respondents were compared with secondary reports on neighbors and sisters using Stata® statistical software. Comparing the three sampling populations for the category of rape outside of marriage, no statistical difference in reporting trends was found between women and sisters ($p=.55$) or between women and neighbors ($p=.77$). There was a non-significant trend for primary respondents to be less likely to report intimate partner violence for their neighbors than themselves ($p=.08$). However, sister's experiences of intimate partner violence had about half the odds of being reported by respondents as compared to a woman's self report ($OR=.53$, $p=.001$).

The category of marital rape had the most variation in terms of self and secondary reporting. In examining the reporting for respondents as opposed to sisters and neighbors, it was found that women were half as likely to report on marital rape for sisters ($OR=.49$, $p>.0001$). Additionally, the odds of a woman disclosing marital rape for neighbors was found to be 37% lower than reporting her own experiences ($p>.003$).

Overall, the results from this pilot suggest that women were better able to report on the experiences of gender-based violence for themselves and their neighbors than for their sisters. Additionally, the category of marital rape was shown to have less reliability in reporting than the two other categories of gender-based violence.

Variance among Interviewers

Another important reliability measure of the neighborhood method is the amount of agreement between raters. Overall, there were no statistical differences between raters for the categories of intimate partner violence and rape outside of marriage (see Figure 1 below). Across the five interviewers, intimate partner violence was reported consistently between 40% and 48%. For marital rape and rape, however, there was more variability. Interviewers reported a range of incidence for marital rape between 16% and 48%, and a range of incidence for rape between 1% and 7%.

Insert Figure 1 Around Here

Discussion

The neighborhood method is a promising methodology for work in contexts of war and displacement, providing increased power by systematically gathering information on women through the social networks of respondents. We emphasize here the use of the method in humanitarian settings where quick and cost-effective prevalence data is vital for providing timely life-saving programmatic response; however, it is considered that the neighborhood method may also be an effective approach in more stable environments in which neighbors have developed long-term relationships. The data suggests that asking about neighbors provides a major vehicle for increased sample size, while reducing the time and expense that makes population-based studies so challenging in such settings. There are a number of methodological issues raised by such an approach, however.

For instance, the methodology clearly brings into question the issue of recall bias. The literature suggests that if any consistent bias exists in self-reported incidence figures an overrepresentation of “good” behavior would be anticipated. In this context, such a bias would make it less likely that households report that they are personally experiencing problems they believe others will perceive as having some negative connotation.³¹ Additionally, it is plausible that key informants may overestimate the health-risk behavior of others.³² However, here we note the high degree of correspondence between women’s self-reports and reports on others, especially their neighbors. While sisters did provide another source of information and triangulation, the data for this much smaller population was less reliable. There is a very small probability that sisters may have been ‘double-counted’ as both sisters and neighbors; a factor that can not be corrected for given the fact that no identifying information on subjects was retained.

Inquiring about experiences of gender based violence entails an acknowledgement of the significant role of culture in the construction and understanding of violence. For this reason, the consistency of case definitions used by interviewers and the values of respondents based on cultural norms provide additional challenges to gathering reliable estimates. In the current study, the data suggest that certain categories of sexual violence – namely intimate partner violence and rape – were more reliably measured. The category of marital rape was a more variable and disputed concept in the Northern Ugandan context, suggesting that this category may require additional training or more explicit operationalization in future work.

Finally, the neighborhood method involves inquiries of an extremely sensitive nature for both the respondent and her larger social circle. In these situations, the highest ethical standards need to be adopted to ensure that there are no unintended consequences for the participant or the other women on whom she reports. In subsequent uses of the protocol in other settings, additional safeguards have been formally instituted.

Given the above limitations, caution needs to be exercised in the interpretation of the reported data. However, taken together, the findings suggest that women living in IDP camps in Lira District are facing alarming levels of violence. One in every two women is indicated to have experienced some form of violence in the previous year. In this period, more than four out of ten women are reported to have experienced beatings from a partner or other family member; three out of ten are reported to have experienced forced sex with husbands (or other intimate partner) against their wishes; and approximately one out of twenty women has been

raped by someone outside of the household. (Such figures are consistent with the findings of an unpublished 2007 study undertaken by the Ugandan Ministry of Health³³, which found marital rape and rape to be reported as significant problems – though no formal prevalence rates were computed – and 54% of respondents reporting that their mothers were beaten by their fathers).

Such rates of sexual violence are significantly higher than those indicated through routine recording. Comparison with camp records suggests that fewer than 10% of cases are currently being reported through formal mechanisms such as hospitals and police.³⁴ This indicates a need for service-based organizations and governmental institutions to strengthen and adapt reporting mechanisms to better support women to come forward.

Population-based approaches to measure human rights concerns such as rape are rare. When such efforts have been attempted, they usually have been linked to larger reproductive health or other demographic health studies. Such linkage has been shown to reduce the reliability of responses. Large household surveys also tend to be lengthy and expensive, often missing important nuances and contextual factors regarding specific issues.

The neighborhood method is a potential alternative to these other types of study. The method is systematic, yet is comparatively inexpensive and swift – two critical factors in humanitarian intervention. In addition, the flow of the discussion allows for interviewers to build trust and rapport, encouraging respondents to feel comfortable disclosing sensitive information about themselves and other women. Crucially, the method involves collection of no personal identifying information that may compromise the security of the respondent. The current study provides a foundation for further studies using revised and developed forms of the protocol.

Violence against women continues to persist around the world, with indications of particularly high risk in conflict-affected settings. However, currently no ‘gold standard’ exists to measure rape and sexual violence. The neighborhood method shows promise in being able to capture essential population-based information on the magnitude and nature of violence against women to inform both programmatic interventions and advocacy.

What is already known on this subject

- Violence against women has major impacts on physical, sexual, behavioral and mental health
- Gender-based violence is widely considered to be more common – and its reporting less common – in the context of complex humanitarian emergencies
- Reliable estimates of incidence in such contexts are rare given the methodological challenges in conflict-affected settings

What this study adds

- This study indicates that gender-based violence – particularly violence perpetrated by an intimate partner– is commonplace in post-conflict Uganda.
- The data suggest that fewer than one in ten incidents of such violence are formally reported, indicating that such formal reports are an unreliable basis to estimate current exposure and develop programming responses.
- The paper illustrates an innovative methodology - the 'neighborhood method' - for estimating the incidence of gender-based violence and other human right violations.

Authors' Contributions Statement

Lindsay Stark (ls2302@columbia.edu) participated in conceptualization, study design, data collection, data analysis, data interpretation, initial drafting of the paper and final review and amendment of the manuscript. She had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Les Roberts (lfr2102@columbia.edu) participated in conceptualization, study design, data analysis, data interpretation and final review and amendment of the manuscript.

Wendy Wheaton (wwheaton@educ.umass.edu) participated in study design, data collection and final review and amendment of the manuscript.

Anne Acham (achamanne2@yahoo.com) participated in study design, data collection and final review and amendment of the manuscript.

Neil Boothby (nb2101@columbia.edu) participated in conceptualization and final review and amendment of the manuscript.

Alastair Ager (aa2468@columbia.edu) participated in conceptualization, study design, data collection, data analysis, data interpretation, initial drafting of the paper and final review and amendment of the manuscript. He had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Competing Interests Statement

At the time of the study, Wendy Wheaton and Anne Acham were employed by Christian Children's Fund which was responsible for implementing gender based violence programming in the targeted areas. No other authors declare a conflict of interest regarding this study.

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Figure 1: Inter-Rater Reliability across Differing Categories of Reported Violence

