Survivors of Gender Based Violence in a major recovery Center in Nairobi, Kenya; a retrospective study on characteristic, prevalence, trends and correlates between 2006 and 2009

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ABSTRACT

Background: Gender-based violence (GBV) is an endemic perpetrated mainly against women and children that results in physical, sexual or psycho-social harm. Globally about one in three women experience GBV in her lifetime while in Kenya about 50 % of women experience GBV in their lifetime, which is currently among the highest rates in the world. While various report exists highlighting various forms of GBV in Kenya, data are skewed on the trends and correlates of GBV in Kenya. **Objective**: This retrospective study characterized the survivors of GBV attending a major Gender Violence Recovery Center (GVRC) in Nairobi Kenya and evaluated the trends and factors associated with GBV between 2006 and 2009. **Methods:** This study, obtained permission from the hospital to retrieve data from past records of d 384 GBV survivors who were recruited from different parts of Kenya. A sociodemographic based questionnaire and Patient Health Questionnaire (PHQ-9) were used to gather information relevant to this study. The data was analyzed for central tendencies as well as for any associations and correlations. **Results:** The mean of the 384 GBV survivors was 19.79 (SD = 11.8; range 1-70) years while 90.4% of them were female. Among the survivors, 55.5% were single (never married before), 52.9% had primary and lower education level, while 70.6% were unemployed. Rape (46%) was the most common type of GBV. Other GBV types included defilement (26%), domestic/physical violence (17%), sexual violence and sodomy (4%). Of all the GBV, a quarter (39.3%) occurred at night (9 pm to 5am). The year 2007 and 2008 was marked by high level of GBV at 35.9% and 32.8% respectively while 96.2% occurred in the later months of year (October, November and December). Penetrative GBV was common among survivors who knew their perpetrator OR 0.7 (95% CI 0.6 to 0.9); in the years 2006 OR 1.9(95% CI 1.2 to 3.1), 2007 OR 1.7(95% CI 1.1 to 2.5) and 2008 OR 1.7(95% CI 1.2 to 3.6). Defilement was common among survivors who had primary level education OR 6.7 (95% CI 2.7 to 16.9), who knew their perpetrators OR 1.8 (95%CI 1.2 to 2.8), in the morning hours OR 2.7 (95% CI 1.5 to 4.9) and afternoon hours OR 3.9 (95% CI 2.2 to 6.8). Further, defilement was more common in the year 2006 OR 2.7 (95% CI 1.2 to 5.8). Domestic violence was likely to occur among survivors aged 30 to 40 years OR 1.9 (95% CI 1.1 to 3.6) and those who knew their perpetrators OR 41.2 (95%CI 5.7 to 300). Rape was common among survivors who were aged 19 to 29 years OR 2.3 (95% CI 1.6 to 3.3) or 30 to 40 years OR 2 (95% CI 4 to 2.9), female OR 4.7 (95% CI 1.8 to 12), those employed or in business OR 1.9 (95% CI 1.4 to 2.6) and lastly in the year 2007 OR 1.8 (95% CI 1.1 to 3.1) and 2008 OR 1.7 (95% CI 1.0 to 2.5). Sexual violence was common among survivors who know their perpetrators OR 0.4 (95% CI 0.2 to 0.9) and among survivors who reported the incidence within 72 hours OR 10.2 (95% CI 2.4 to 42). Sodomy occurred less among the female OR 0.01 (95% CI 0.1 to 0.2). **Conclusion:** Rape was more common form of GBV among the survivors and most of the GBV occurred in the later months of year in the years 2007 and early 2008 which were marked by post-election violence. Familiarity with perpetrators, female gender, and the younger age were disproportionately vulnerable to GBV. Strife of any nature are key predictors of GBV. Effective protection can be established only by preventing GBV, identifying risks and responding to survivors.

Keywords: Survivors of Gender-based violence, Major GBV Recovery Center in Nairobi Kenya, trends and correlates between 2006 and 2009

BACKGROUND

Gender based violence (GBV) or Violence against women is perhaps the most widespread and socially tolerated of human rights violations, cutting across borders, race, class, ethnicity and religion [UN Declaration of 1993]. Kenya is not an exception to this form of brutality which negatively affects women and girls in particular [Prevention of and Response to GBV, 2014]. The GBV includes acts that inflict physical, mental, or sexual harm or suffering, threats of such acts, coercion and other deprivations of liberty, whether occurring in public or in private life [Mugawe and Powell 2006; Prevention of and Response to GBV, 2014]. The GBV entails widespread

human rights violations, and is often linked to unequal gender relations within communities and abuses of power [Beijing Declaration and Platform for Action, 1995]. In Kenya, as elsewhere in the world, GBV is a complex issue that has as its root the structural inequalities between men and women that result in the persistence of power differentials between the sexes [Aura, 2014]. Women's subordinate status to men in many societies, coupled with a general acceptance of interpersonal violence as a means of resolving conflict, renders women disproportionately vulnerable to violence from all levels of society: individual men, within the family and community, and by the state [Aura, 2014].

The impact of SGBV is devastating. The individual women who are victims of such violence often experience life-long emotional distress, mental health problems and poor reproductive health, as well as being at higher risk of acquiring HIV and intensive long-term users of health services [Aura, 2014]. In addition, the cost to women, their children, families and communities is a significant obstacle to reducing poverty, achieving gender equality and ensuring a peaceful transition for post-conflict societies. This, in conjunction with the mental and physical health implications of gender-based violence, impacts on a state or region's ability to develop and construct a stable, productive society, or reconstruct a country in the wake of conflict [Aura, 2014].

Gender-based violence occurs in all societies of the world, within the home or in the wider community and it affects women and girls disproportionately. One out of three women worldwide will be beaten, coerced into sex or otherwise abused in her lifetime, with rates reaching 70% in some countries [WHO, 2005]. In sub- Saharan Africa GBV is highly noticeable in countries that are politically unstable. In Congo, Darfur, Sierra Leone, Kosovo, Uganda and other conflict areas, women have been subjected to rape, sexual slavery, and other forms of sexual abuse [UNOCHA, 2007]. Cases of physical violence reported in East, Central and South Africa paint a similar picture [UNITE, 2009; AIDS-Free World, 2009]. Kenya is not an exception, GBV occurrence has been cited in Kenya. In the 2006 UNAIDS reported 83% of Kenyan women and girls were victims of one or more episodes of physical abuse in childhood, 46% reported one or more episodes of sexual abuse in childhood, and 25% Kenyan girls report losing their virginity by force [UNAIDS, 2006]. In 2007 and 2008, Kenya witnessed sporadic episodes of post-election violence (PEV); while the effects of conflicts and war has been evidenced in fueling different forms of violence especially gender based in other regions, data is skewed on the impact of post-election violence on GBV in Kenya. This survey sought evaluate the nature, trends and correlates of GBV between 2006 to 2009 taking into account the 2007/2008 PEV.

METHODS
Study design and Settings
This retrospective study conducted in 2015, reviewed data from GBV survivors enrolled in one of the GBV recovery centers in Nairobi between 2006 to 2009. Formula for estimating the population proportion with specified relative precision described by Lemeshow *et al.* [1990] was used to determine the number of participants in this study. Setting α at 0.05, and a GBV rate in Kenya at 50%, a maximum sample of 384 were selected to achieve 0.90 power. The GBV survivors selected in this study were of all ages who attended GVRC between April 2006 and March 2009. Survivors whose data was captured and stored at this center and those whose permission were granted by the in charge of GVRC to access their data. The subjects were selected proportionate to population of survivors. This included; 87 in 2006; 107 in 2007; 104 in 2008; and 92 in 2009.

Data collection

GBV Survivor Data abstraction
The medical files of GBV survivors were retrieved and assessed for the following information: socio-demographic information such as age, gender, marital status, education level, occupation. Violence based information including type, period of occurrence, action taken and characteristics of perpetrator.

Key Informant interviews

The Key Informant interviews (KIIs) were conducted to confirm and clarify any pending or new issues described in the structured questionnaire. The KIIs have been shown to provide a valuable foundation for a broader understanding of contextual matters relevant to the issues being explored [Bernard, 1994]. Randomly representative KII were identified consented and interviewed at a place and time most convenient and confidential for the participants. The informants were selected for their position of leadership, either formal or

informal, and their ability and willingness to reflect on our findings. In addition to being willing to share, reflect upon the findings of the study, informants were those observant, articulate and available for multiple interviews of varying duration on an assortment of topics related to the study.

Ethical consideration
The research protocol was presented for scientific and ethical approvals by the Notational Counsel of Science and Technology prior to any protocol-related procedures (e.g., advertising or recruitment) (NACOSTI/P/15/3971/7884). Written permission was obtained from the facility in charge before data retrieval. Confidentiality was maintained by assigning all participants with a unique identification number. All data were stored in a restricted-access room. This research adhered to the STROBE guidelines for observational studies as outlined at: http://www.strobe-statement.org.

Statistical analyses
Proportions were used to describe categorical variables. Chi-square or Fisher's exact test were used to test for significance where applicable. The overall cases of GBV were determined for all participants. In bivariate analyses, odds ratios (OR) and 95% confidence intervals (CI) for the association between GBV and socio-demographic and economic characteristics were calculated using Poisson regression. In multivariate analyses, a manual backward elimination approach was utilized to reach the most parsimonious model, including factors that were independently associated with GBV at the significance level of $p \le 0.05$. All statistical analyses were performed using STATA version 13 (StataCorp LP, Texas, USA).

The qualitative data (KII) were subjected to a thematic content analysis. This approach entails the categorization of recurrent data collected under thematic areas [Green & Thorogood, 2010]. The analysis was done manually using general purpose software tools using Microsoft Word [La Pelle, 2004].

RESULTS
Characteristics of study population
In this study, all the 384 selected participants' files had sufficient data for this study (100% response rate). As summarized in Table 1, the mean age of the study participants was 19.79 (SD = 11.8; range 1-70) years. The majority (90.4%) of the survivors were female, 55.5% were single, 52.9%, had primary and below level education while 70.6% were not engaged in any form of employment.

**Table 1: Study population Socio-demographic characteristics**

Participant's Characteristic	Sample size		χ2	df	P
	No	%			
Age Group					
<18	166	43.2			
19-29	143	37.2	153.271	3	0.001
30-40	57	14.8			
>41	18	4.7			
Gender					
Female	347	90.4	250.26	1	0.0001
Male	37	9.6			
Marital Status					
Minor	82	21.4			
Single	213	55.5	221.443	3	0.001
Married	77	20.1			
Separated/Divorced/Widowed	12	3.1			
Education Level					
Primary and below	203	52.9			
Secondary	101	26.3	67.641	2	0.0001
Tertiary	80	20.8			
Occupation					
Employed/Bussines	113	29.4	65.01	1	0.001
Unemployed	271	70.6			

No-Number; %-Percentage; χ2-chi square; df-degrees of fredom; P-Level of significance

Types of GBV
Among the nature of GBV meted against the survivors, rape (46%) was the most frequent type (Figure 1).

Defilement (26%), domestic/physical violence (defined as behaviors either psychological, physical, financial or emotional used by one person in a relationship to control the other) (17%), sexual violence (defined here as attempted forced penetration of a victim) and sodomy (4%) were the other forms of GBV meted against the survivors.
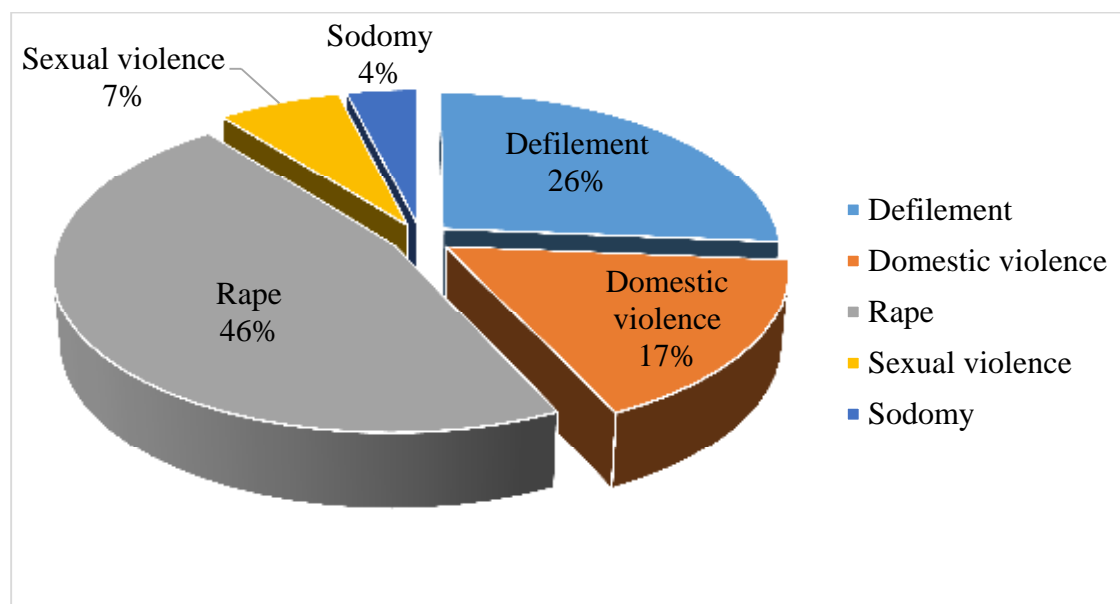
Figure 1: Distribution of GBV by Types

Trends of GBV

As summarized in Table 2, most of the GBV occurred in the odd hours of the night. Four types of GBV including; domestic violence (25% vs 42.2%), rape (28.7% vs 44.9%), sexual violence (11.5% vs 69.2%) and sodomy (26.7% vs 40%) occurred in the late hours of the day; evening and night time (5pm to 5am). Defilement (31.7%) is the only GBV that occurred mostly in the afternoon (P = 0.001). The sexual violence exclusively (100%) occurred in the year 2009. Defilement (35.6% vs 34.7%); domestic violence, (43.8% vs 35.9%); rape (39.3% vs 34.8%) and sodomy (26.7% vs 40%) were more common between the years 2007 and 2008 respectively (P = 0.001). The sexual violence almost exclusively occurred in the later months of year (30.8%) October, 34.6% in November and 30.8% in December. The occurrence of sodomy was sporadic across the months of the year; 20% in March and June each followed by 13.3% each in April and October. Domestic violence was common in the early months of the year 21.9% in February and 10.9% in March with a steady decline across the year. Defilement and rape were uniformly distributed across all months of the year (P = 0.001).

Factors associated with GBV among survivors

Penetrative GBV: GBV such as defilement, rape and sodomy were considered penetrative and were included in this analysis. In bivariate analysis, survivors who knew their perpetrators were less likely to encounter penetrative GBV OR 0.7 (95% CI 0.6 to 0.9), compared to those who had not idea about their perpetrators. Penetrative GBV was more likely to occur in the following years, 2006 OR 1.9(95% CI 1.2 to 3.1), the year 2007 OR 1.7(95% CI 1.1 to 2.5) and during the year 2008 OR 1.7(95% CI 1.2 to 3.6) compared to the year 2009. In multivariate analysis, penetrative GBV was further 80%, 60% and 70% more likely to occur in the years 2006 (OR 1.8(95% CI 1.2 to 2.8), 2007 (OR 1.6(95% CI 1.1 to 2.5) and in 2008 (OR 1.7(95% CI 1.1 to 2.4) respectively.

Defilement GBV: In bivariate analysis, survivors who were in primary school were more likely to encounter this type of GBV OR 6.7 (95% CI 2.7 to 16.9), compared to those in secondary school. The survivors who were currently employed or in business were unlikely to experience defilement OR 0.4 (95% CI 0.01 to 0.2) compared to those unemployed. Survivors from low OR 11.8 (95% CI 1.6 to 85) and middle OR 9.5 (95% CI 1.3 to 69) socio-economic classes were more likely to be defiled compared to those in upper socio-economic classes. Survivors who knew the perpetrators OR 1.8 (95%CI 1.2 to 2.8) were more likely to be defiled compared to those who did not know their perpetrators. Defilement was likely to occur in the morning OR 2.7 (95% CI 1.5 to 4.9) and in the afternoon OR 3.9 (95% CI 2.2 to 6.8) compared to at night. Defilement was more common in the year 2006 OR 2.7 (95% CI 1.2 to 5.8) compared to the year 2009. In multivariate analysis female 10% more

likely to be defiled compered to males OR 5.1 (95% CI 1.5 to 16). Perpetrators who were known were more likely to commit defilement OR 1.6 (95% CI 1.4 to 2.5) than those unknown. Further, defilements were 30% and 40% to occur in the morning OR 2.3 (95% CI 1.3 to 4.1), and in the afternoon OR 3.4 (95% CI 1.9 to 6.1) compared to at night.

Table 2: Overall trend of GBV across socio-economic regional classes, time, year and month of the incident

Participant's Characteristic	Nature of GBV							
	Defilement	Domestic violence	Rape	Sexual violence	Sodomy	χ2	df	P
Time of incident								
Morning (5 am-12 pm)	28 (27.2)	16 (25)	26 (14.6)	4 (15.4)	2 (13.3)			
Afternoon (12-5 pm)	32 (31.7)	5 (7.8)	21 (11.8)	1 (3.8)	3 (20)	50.449	12	0.001
Evening (5-9 pm)	21 (20.8)	16 (25)	51 (28.7)	3 (11.5)	4 (26.7)			
Night (9 pm-4.59 am)	20 (19.8)	27 (42.2)	80 (44.9)	18 (69.2)	6 (40)			
Year of incident								
2006	21 (20.8)	5 (7.8)	28 (15.7)	0	2 (13.3)			
2007	36 (35.6)	28 (43.8)	70 (39.3)	0	4 (26.7)	146.63	12	0.001
2008	35 (34.7)	23 (35.9)	62 (34.8)	0	6 (40)			
2009	9 (8.9)	8 (12.5)	18 (10.1)	26 (100)	3 (20)			
Month of the incident								
January	8 (7.9)	6 (9.4)	20 (11.2)	0	0			
February	12 (11.9)	14 (21.9)	12 (6.7)	0	0			
March	7 (6.9)	7 (10.9)	16 (9)	0	3 (20)			
April	8 (7.9)	5 (7.8)	15 (8.4)	1 (3.8)	2 (13.3)			
May	7 (6.9)	2 (3.1)	13 (7.3)	0	0	99.097	44	0.001
June	11 (10.9)	4 (6.3)	11 (6.2)	0	3 (20)			
July	11 (10.9)	4 (6.3)	13 (7.3)	0	0			
August	9 (8.9)	3 (4.7)	17 (9.6)	0	0			
September	5 (5)	6 (9.4)	15 (8.4)	0	1 (6.7)			
October	8 (7.9)	2 (3.1)	17 (9.6)	8 (30.8)	2 (13.3)			
November	7 (6.9)	5 (7.8)	13 (7.3)	9 (34.6)	3 (20)			
December	8 (7.9)	6 (9.4)	16 (9)	8 (30.8)	1 (6.7)			

Figures in bracket are the percentage; χ2-chi square; df-degrees of fredom; P-Level of significance

Sexual violence - attempted forced penetration of a victim; Domestic violelnce - Behaviors (psychological, physical, financial or emotional) used by one person in a relationship to control the other

Domestic violence: In bivariate analysis, domestic violence was likely to occur among those aged 30 to 40 years OR 1.9 (95% CI 1.1 to 3.6) compared to those aged 41 years and older. Further, domestic violence strong likely to occur among survivors who knew the perpetrators OR 41.2 (95%CI 5.7 to 300) compared to those who did not know their perpetrators. In multivariate analysis domestic violence was 30% less likely to occur among in the afternoon hours OR 0.3 (95% CI 0.1 to 0.9) compared to at night.

KII views on GBV perpetrators: All the KII agreed that GBV are perpetrated by people known to the survivors. *"KII-7…. most of the survivors of GBV received reported that they were physically assaulted by people known to them including husbands, boyfriends, neighbors and close relatives……"*

Table 3: Factors associated penetrative, defilement and domestic violence

Characteristic	Nature of the Gender based violence							
	Penetrative			Defilement			Domestic violence	
	% Pos	Bivariate OR (95% CI)	Multivariate	% Pos	Bivariate OR (95% CI)	Multivariate	% Pos	Bivariate OR (95% CI)	Multivariate
Age Group									
<18	47.3	1.2(0.8-1.7)		98			26.6	0.6(0.3-1.2)	
19-29	36.1	1.1(0.7-1.5)	NS	2	ND	NS	39.1	1.1(0.6-2.1)	NS
30-40	11.9	0.9(0.6-1.2)		0			28.1	1.9(1.1-3.6)	
>41	4.8	Referent		0			6.3	Referent	
Gender									
Female	92.2	1.2(0.6-2.4)	NS	97	ND	5.1(1.5-16)	84.4	0.8(0.3-2.6)	NS
Male	7.8	Referent		3		Referent	15.6	Referent	
Education Level									
Primary and below	53.4	1.1(0.8-1.4)		85.1	6.7(2.7-16.7)		53.1	0.8(0.5-1.5)	
Secondary	26.9	1.1(0.7-1.5)	NS	9.9	1.5(0.5-4.6)	NS	21.9	0.7(0.3-1.4)	NS
Tertiary	19.7	Referent		5	Referent		25	Referent	
Occupation									
Employed/Bussines	28.9	0.9(0.8-1.2)	NS	2	0.4(0.01-0.2)	NS	26.6	0.8(0.5-1.5)	NS
Unemployed	71.1	Referent		98	Referent		73.4	Referent	
Region of origin									
Lower socio-economic class	42.5	0.8(0.6-1.2)		53.6	11.8(1.6-85)		45.3	1.5(0.6-4.5)	
Middle socio-economic class	46.3	0.9(0.6-1.3)	NS	45.5	9.5(1.3-69)	NS	48.4	1.6(0.6-4.6)	NS
Upper socio-economic class	11.2	Referent		1	Referent		6.3	Referent	
Papetrator									
Known	53.7	0.7(0.6-0.9)	NS	73.3	1.8(1.2-2.8)	1.6(1.4-2.5)	98.4	41(5.7-300)	NS
Unknown	46.3	Referent		26.7	Referent		1.6	Referent	
Time of incident									
Morning (5 am-12 pm)	19	1.0(0.7-1.4)		27.7	2.7(1.5-4.9)	2.3(1.3-4.1)	25	1.2(0.6-2.1)	
Afternoon (12-5 pm)	19	1.2(0.9-1.8)	NS	31.7	3.9(2.2-6.8)	3.4(1.9-6.1)	7.8	0.5(0.2-1.2)	0.3(0.1-0.9)
Evening (5-9 pm)	25.9	1.1(0.9-1.5)		20.8	1.6(0.9-3.1)		25	0.9(0.5-1.7)	
Night (9 pm-4.59 am)	36.1	Referent		19.8	Referent		42.2	Referent	
Year of incident									
2006	17.3	1.9(1.2-3.1)	1.8(1.2-2.8)	20.8	2.7(1.2-5.8)		7.8	0.7(0.2-2.1)	
2007	35.9	1.7(1.1-2.5)	1.6(1.1-2.5)	35.6	1.8(0.8-3.9)	NS	43.8	1.6(0.7-3.5)	NS
2008	35	1.7(1.2-2.6)	1.7(1.1-2.4)	34.7	1.9(0.9-4.1)		35.9	1.5(0.6-3.2)	
2009	10.2	Referent	Referent	8.9	Referent		12.5	Referent	

% - Percentage; OR - Odds ratio; CI - confidence interval; ND - Not Done; NS - Not significant

Rape: In bivariate analysis, survivors who 18 years and less were less likely OR 0.6 (95% CI 0.4 to 0.8) to be raped compared to those aged 40 years and older. On the other hand, those aged 19 to 29 years OR 2.3 (95% CI 1.6 to 3.3) and 30 to 40 years OR 2 (95% CI 4 to 2.9) were more likely to be raped compared to those aged 41 years and older. Female OR 4.7 (95% CI 1.8 to 12) were more likely to be raped than males. Minors OR 0.3 (95% CI 0.2 to 0.8) were unlikely to be raped compared to those separated/divorced or widowed. Survivors who were in primary and below OR 0.5 (95% CI 0.3 to 0.7) were unlikely to be raped than those with tertiary level education. The employed and business OR 1.9 (95% CI 1.4 to 2.6) survivors were more likely to be raped than those who were unemployed. Survivors who were from low OR 0.5 (95% CI 0.3 to 0.8) and middle socio-economic classes OR 0.6 (95% CI 0.4 to 0.9) were less likely to be raped compared to those from upper socio-economic class. Further, survivors who knew their perpetrators OR 0.5 (95% CI 0.3 to 0.6) were less likely to encounter penetrative GBV, compared to those who had not idea about their perpetrators. Raped was more likely to occur in the following years, 2007 OR 1.8 (95% CI 1.1 to 3.1) and the year 2008 OR 1.7 (95% CI 1.0 to 2.5) compared to the year 2009. In multivariate analysis, those aged 18 years and less were less likely to be raped OR 0.6 (95% CI 0.4 to 0.9). Those aged 19 to 29 years and 30 to 40 years were more likely to be raped OR 2.1 (95% CI 1.4 to 3.1) and OR 2.3 (95% CI 1.5 to 3.7) respectively. Survivors from low socio-economic class and those who knew their perpetrators were less likely to be raped OR 0.6 (95% CI 0.4 to 0.9) and OR 0.5 (95% CI 0.4 to 0.6) respectively. Rape was more likely to occur in the years 2006, 2007 and 2008 OR 1.9 (95% CI 1.1 to 3.7), OR 2.2 (95% CI 1.9 to 3.9) and OR 1.8 (95% CI 1.1 to 3.2) respectively.

Sexual violence: In bivariate analysis, sexual violence was less likely to occur among survivors who know their

perpetrators OR 0.4 (95% CI 0.2 to 0.9) verses those who did not know their perpetrators. Further, sexual violence was less likely to occur in the evening hours OR 0.3 (95%CI 0.1 to 0.9) verses at night. On the other hand, survivors who reported the incidence within 72 hours were more likely that they experience sexual violence OR 10.2 (95% CI 2.4 to 42) compared to those who waited beyond 72 hours. None of these factors was significant in multivariate analysis.

Sodomy: In bivariate analysis, survivors from low socio-economic class OR 0.1 (95% CI 0.2 to 0.9) were less likely to be sodomized verses those from upper socio-economic. In multivariate analysis female OR 0.01 (95% CI 0.1 to 0.2) were less likely to be sodomized compared to males.

KII views on Key factors associated with GBV: From the discussions with key informants, the factors sighted contributing to GBV were grouped into four categories: Individual, Relationship, community and societal level factors.

Individual-level factors: These they stated included biological and personal history factors that increase the risk of violence. Low level of education, young age (early marriage) and low-economic status/income are among the individual risk factors for both experiencing and perpetrating intimate partner violence. Others mentioned included abuse of drugs such as alcohol and poor attitudes also play an important role.

> *'KII-2……. For example, past experiences of violence also play a role; exposure to sexual abuse and intra-parental violence during childhood as well as a history of experiencing (for women) or perpetrating (for men) violence in previous intimate relationships increases the likelihood of violence in future relationships…"*

> *"KII-1…there is a strong correlation between women and men perceiving violence as acceptable behavior and their exposure to intimate partner and sexual violence…"*

Relationship-level factors. These contribute to the risk of GBV at the level of relationships with peers, intimate partners and family members. *"KII-7…For instance, men having multiple partners are more likely to perpetrate intimate partner violence or sexual violence. Such men are also more likely to engage in risky behaviors with multiple sexual partners by refusing condoms, exposing themselves and their intimate partners to a higher risk of HIV infection……"*

Other factors associated with an increased risk of intimate partner violence include partnerships with low marital satisfaction and continuous disagreements, as well as disparities in education status between the partners.

Community-level factors: Refer to the extent of tolerance towards GBV in contexts at which social relationships are embedded, such as schools, workplace or the neighborhoods.

> *"KII-5……societies that have community sanctions against violence, including moral pressure for neighbors to intervene, in place and where women had access to shelter or family support have the lowest levels of intimate partner and sexual violence.…*

Society-level factors include the cultural and social norms that shape gender roles and the unequal distribution of power between women and men.

> *"KII-5.… Intimate partner violence occurs more often in societies where men have economic and decision-making powers in the household and where women do not have easy access to divorce and where adults routinely resort to violence to resolve their conflicts……"*

> *"KII-7.… Unstable Social Conditions, like famine, droughts and conflicts displace civilians and women can suffer sexual abuse while in camps or in their communities……"*

Table 4: Factors associated rape, sexual violence and sodomy

Characteristic		Nature of the Gender based violence						
		Rape			**Sexual violence**			**Sodomy**	
	% Pos	Bivariate OR (95% CI)	Multivariate	% Pos	Bivariate OR (95% CI)	Multivariate	% Pos	Bivariate OR (95% CI)	Multivariate
Age Group									
<18	15.7	0.6(0.4-0.8)	0.6(0.4-0.9)	38.5			80		
19-29	56.7	2.3(1.6-3.3)	2.1(1.4-3.1)	46.2	ND	NS	20	ND	NS
30-40	19.7	2(1.4-2.9)	2.3(1.5-3.7)	15.4			0		
>41	7.9	Referent		0			0		
Gender									
Female	96.6	4.7(1.8-12)	NS	84.6	ND	NS	6.7	ND	0.01(0.1-0.2)
Male	3.4	Referent		15.4			93.3		
Marital Status									
Minor	10.7	0.3(0.2-0.8)		11.5	0.2(0.03-1.3)		3.3	0.7(0.1-6.3)	
Single	66.3	0.8(0.5-1.7)	NS	65.4	0.5(0.1-2.1)		60	0.5(0.1-3.9)	NS
Married	18.5	0.6(0.3-1.3)		15.4	0.3(0.2-1.7)		0		
Separated/Divorced/Widowed	4.5	Referent		7.7	Referent		6.7	Referent	
Education Level									
Primary and below	34.8	0.5(0.3-0.7)	NS	46.2	0.7(0.3-2.1)		60	0.8(0.3-2.8)	
Secondary	37.6	1.1(0.7-1.5)		30.8	1.1(0.4-3.1)		13.3	0.4(0.1-2.2)	NS
Tertiary	27.5	Referent		23.1	Referent		26.7	Referent	
Occupation									
Employed/Bussines	44.9	1.9(1.4-2.6)	NS	42.3	1.7(0.8-3.8)	NS	20	0.6(0.2-2.1)	NS
Unemployed	55.1	Referent		57.7	Referent		80	Referent	
Papetrator									
Known	41.6	0.5(0.3-0.6)	0.5(0.4-0.6)	38.5	0.4(0.2-0.9)	NS	66.7	1.3(0.5-3.9)	NS
Unknown	58.4	Referent		61.5	Referent		33.3	Referent	
Reporting Days post GBV									
Within 72 hours	53.9	0.9(0.7-1.3)	NS	92.3	10.2(2.4-42)	NS	40	0.6(0.2-1.6)	NS
Beyond 72 hours	46.1	Referent		7.7	Referent		60	Referent	
Time of incident									
Morning (5 am-12 pm)	14.6	0.6(0.4-1)		15.4	0.4(0.2-1.3)		13.3	0.7(0.1-3.2)	
Afternoon (12-5 pm)	11.8	0.6(0.4-1.1)	NS	3.8	0.1(0.01-1.1)	NS	20	1.2(0.3-4.8)	NS
Evening (5-9 pm)	28.7	1.1(0.7-1.4)		11.5	0.3(0.1-0.9)		26.7	1.1(0.3-3.6)	
Night (9 pm-4.59 am)	44.9	Referent		69.2	Referent		40	Referent	
Year of incident									
2006	15.7	1.7(0.9-3.2)	1.9(1.1-3.7)	0			13.3	0.7(0.2-4.5)	
2007	39.3	1.8(1.1-3.1)	2.2(1.2-3.9)	0	ND	NS	26.7	0.6(0.1-2.7)	NS
2008	34.8	1.7(1.0-2.9)	1.8(1.1-3.2)	0			40	1.1(0.3-4.1)	
2009	10.1	Referent		100			20	Referent	

% - Percentage; OR - Odds ratio; CI - confidence interval; ND - Not Done; NS - Not significant

DISCUSSION

Cases and characteristics of GBV survivors: Despite the 1979 UN Convention on the Elimination of all Forms of Discrimination against Women, the incidences are still being reported. The individual women who are victims of such violence often experience life-long emotional distress, mental health problems and poor reproductive health, as well as being at higher risk of acquiring HIV and intensive long-term users of health services [Calvete *et al.,* 2008; Aura, 2014]. To contribute to this endeavor, this study was carried out in one of the largest GBV recovery center in Nairobi Kenya with a national level representation of GBV survivors; in order to characterize the nature of GBV, unpack the trends and to validate the causes/factors of gender-based in Kenya. Most of the GBV survivors in this study were young in age, female in gender, were from low and middle socio-economic class and were single (never married before) with primary and lower education level and were unemployed. These demographic characteristics are consistent with previous studies which shows majority of the victims of violence are girls; 60% of women who have experienced violence reported age at first abuse between 6-12 years [UNAIDS, 2004]. Although our study was not a prevalence based study, the cases of GBV globally have been shown to be on the rise. In Kenya, UNAIDs, 2006 showed that 49% of women reported experiencing violence in their lifetime [UNADS, 2006]. GBV ranged from 15% to 71% among women in marriage or current partnerships globally [Ellsberg *et al.,* 2008]. The reported lifetime prevalence in sub-Saharan Africa ranges from 11% to 52%, respectively [Okenwa *et al.,* 2009]. The prevalence reported from various hospital based studies in Nigeria ranges from 28% in Zaria to 46% in Nnewi [Ameh *et al.,* 2007]. These reported prevalence figures might only be the tip of the iceberg because of under-reporting, lack of standardization of methods and beliefs that issues concerning families and intimate relationships should not be discussed as it is seen as a "private matter." [Yusuf *et al.,* 2011].

Nature of GBV: Rape was the most common type of GBV. Defilement, domestic/physical violence, sexual violence and sodomy were the other forms of GBV meted against the survivors. This is consistent with previous report that shows women in Kenya are subjected to various forms of violence [UN, 2006]. Rape have been shown to occur in the thousands [Women's Enews, 2006]. One source reports an "epidemic of rape" and another states that [translation] "a woman is raped every 30 seconds in Nairobi [UN, 2006; UNAIDS, 2006]. Domestic violence is also widespread; wife beating is a common and generally accepted practice in Kenyan society [UN, 2006]. Studies in Kenyan have identified other forms of GBV such as women's discrimination in terms of succession and inheritance, female genital mutilation (FGM) and forced or arranged marriages (UNAIDS, 2012). The violence against women in India is alarming. In the year 2011, the types of GBV included cruelty by husband and their relatives at 43.4%; molestation - 18.8%; rape - 10.6%; kidnapping and abduction - 15.6%; sexual harassment - 3.7% and dowry death - 3.8% [New Delhi, National Crime Records Bureau, 2011]. In terms of GBV, India is ranked among the fourth most dangerous country in the world after Afghanistan, Congo, and Pakistan [UN, 2014]. Compared to men, women report more frequent and severe levels of intimate partner violence, with acute injuries and chronic health consequences [Jaden and Thoennes, 2000]. Conversely, compared to women, men are more likely to experience violence outside the home by unrelated individuals, who may or may not know each other [Aisenberg and Herrenkohl, 2008].

Trends of GBV: One unique aspect of this study was the ability to evaluate the trends of GBV along the time of incidence, month of the year and across three-year period. Most of GBV in this study occurred in the evening and night hours (5 pm to 5am) and in the years of 2007 and 2008 marked by post-election violence. Although most of the GBV incident occurred at the beginning of the year and late in the year this distribution was not statistically significant. In Africa the incidence of GBV is highly correlated with the prevalence of armed conflict. Whilst it is the case that sexual violence has historically been widespread during times of warfare the world over, this has been shown to be particularly true in Africa in recent years [Keen, 2005; Peters and Richards, 2007]. Wars in the Democratic Republic of Congo (DRC), Rwanda, Sudan, Sierra Leone and Uganda etc have been accompanied by the widespread use of rape and other sexual violence [Peters and Richards, 2007]. The statistics are startling. In DRC it is believed that over the course of the last decade, tens and possibly hundreds of thousands of women have been raped [Peters and Richards, 2007]. It is estimated that over 500,000 women were raped during the Rwandan Genocide of 1994 [de Brouwer, 2005], while in Sierra Leone it is believed that around 9% of the female population suffered some form of sexual assault during the conflict of the 1990s [Amowitz *et al.,* 2002].

Age and gender as factors associated with GBV: In this study defilement and sodomy were associated with younger age and lower primary education. Discrepancy exist on age and risk for defilement. Some data show a relatively uniform risk for children after age three. Other studies found that over half of the children who were sexually victimized were between 15-17 years old [David et al., 2008; Essabar et al., 2015]. Moreover, some studies believe that, as a risk factor, age operates differentially for girls and boys, with high risk starting earlier and lasting longer for girls. Domestic violence was associated with age. Those aged 30 to 40 years and knew their perpetrator were predisposed to domestic violence. This is contrary to study by Stöckl et al., [2014] which showed that adolescent and young women are most at risk of experiencing physical and sexual violence among women of reproductive age, with prevalence rates ranging from 8 to 57 percent for physical and sexual violence with these prevalence rates being higher than among older women in most countries. On the other hand, Itimi et al., [2014] reported a domestic violence age similar to our finding of below 40 years. They attributed this to issues in the family life cycle. This period corresponds to the launching years when the couple's functions and responsibilities expand especially with the arrival of children. There is associated financial strain with decrease in leisure activities. These younger couples are likely to have lower educational status with concomitant lower income and likely underemployment [Heise et al., 1998]. Studies have shown that domestic violence particularly wife and children beating in many developing countries including Kenya is widely sanctioned as a form of discipline and not a violent behavior [UNICEF, 2001]. Oyediran and Isiugo-Abanihe [2005] in their study reported high level of support expressed for wife beating by both males and females. This is due to the fact that domestic violence functions as a means of enforcing conformity with the role of a woman within customary society. It is therefore not seen as a criminal offence; moreover, domestic violence may also be perceived as a sign of love in some societies [Jewkes, 2002].

Rape in our study was associated with age those aged between 19 to 40 years were more likely to be raped. Studies shows that young women are usually found to be more at risk of rape than older women [Fulu *et al.,*

2013; Jewkes *et al.,* 2013]. According to data from justice systems and rape crisis centers in Chile, Malaysia, Mexico, Papua New Guinea, Peru and the United States, between one-third and two-thirds of all victims of sexual assault are aged 15 years or less. Certain forms of sexual violence, for instance, are very closely associated with a young age, in particular violence taking place in schools and colleges, and trafficking in women for sexual exploitation [Jewkes *et al.,* 2006; Jewkes *et al.,* 2012].

Occupation and educational level as factors associated with GBV: Low socioeconomic status was a key determinant of defilement, this is similar to other studies which reported low socioeconomic status as a powerful risk factor for physical abuse and neglect [Essabar et al., 2015]. Our study showed that survivors from low and middle socio-economic status and those unemployed were less likely to be raped. This is in agreement with other studies which have reported poverty to be not associated with single perpetrator rape, its importance has not been consistently reported in resource-poor settings [Jewkes et al., 2006; Jewkes et al., 2012]. Other studies have found out that poverty, indicated by present food insecurity and low educational attainment, are especially associated with multiple perpetrator rape and rape of men, and with physical and sexual partner violence [Fulu et al., 2013; Jewkes et al., 2013].
The employed, schooled, socio-economically stable survivors were likely to experience sexual violence and rape. Women are at increased risk of sexual violence, as they are of physical violence by an intimate partner, when they become more educated and thus more empowered. Women with no education were found in a national survey in South Africa to be much less likely to experience sexual violence than those with higher levels of education [Vyas and Watts, 2008]. In Zimbabwe, women who were working were much more likely to report forced sex by a spouse than those who were not [Itimi *et al.,* 2014]. The likely explanation is that greater empowerment brings with it more resistance from women to patriarchal norms [Krause *et al.,* 2008], so that men may resort to violence in an attempt to regain control.

Knowledge of perpetrator as a factor associated with GBV: Survivors who knew the perpetrators were more likely to be defiled. Our study and several studies agree that approximately half of offenders are acquaintances with studies differing more about the percentage of their involvement ranging from 14% to 47% [Essabar et al., 2015]. Strangers make up the smallest group of perpetrators ranging from 7% to 25% [Hanson et al., 2003; Essabar et al., 2015]. The apparent percentage of extrafamilial perpetrators should not obscure the accurate proportion of intrafamilial abuse which tends to be underrepresented among reported cases given the sociocultural restraints surrounding sexual issues especially in developing countries [Essabar et al., 2015].

Marital status as a factor associated with GBV: One of the most common forms of sexual violence around the world is that which is perpetrated by an intimate partner, leading to the conclusion that one of the most important risk factors for women – in terms of their vulnerability to sexual assault – is being married or cohabiting with a partner [Jewkes et al., 2012]. Conflicting results have been seen with marital status and domestic violence. Some studies show married women being predispose to battering than the cohabiting women while other reports in the contrary [Itimi et al., 2014].

Year and time of incidence as factors associated with GBV: Raped was more likely to occur in the years 2007 and 2008 period corresponding to post-election violence in Kenya. This is consistent with other findings which shows civil conflict/war, ethnic conflict and other forms of war charges soldiers to exert "manliness", making sexual violence a plausible tactic [Krug 2002]. Women involved in, or surrounded by, other forms of violence are also more susceptible to being victims of sexual violence [Howard and Wang, 2003]. Unstable Social Conditions, like famine, droughts and conflicts displace civilians and women can suffer sexual abuse while in camps or in their communities. Krug et al., [2002b] note the interconnectivity of war, economic hardship and the conditions that place women at risk of sexual violence.

Conclusions
The results of this study re-affirms the predominance of GBV among survivors who were mostly young in age, female in gender, economically disadvantaged and those single (never married before) with primary and lower education level and were unemployed. Rape was the most common form of GBV, a report reported in other studies. Most of GBV in this study occurred in the evening and night hours (5 pm to 5am) reflecting the time of increased vulnerability of the survivors due to exposure to perpetrators and the lack of quick response from outside. Most of the GBV occurred in the years of 2007 and 2008 which in Kenya, were marked by postelection violence. Effective protection against GBV can be established only by preventing GBV, identifying risks and

responding to survivors.

Competing interests

The authors declare no competing interests.

Authors' contributionsPNG, PN and MO conceived and designed the study. PNG conducted field work and collected data. MON and PNG conducted data analysis and wrote the draft manuscript. PN and MO advised and supervised data analysis and reviewed the manuscript. All authors read and approved the final manuscript.

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