



Health consequences of sexual based violence among survivors in selected hospitals in Kenya

Osero J. S. Osano^{1*}, Margaret N. Keraka², Syprine A. Otieno³

1 Department of Community Health, School of Public Health, Kenyatta University, P.O. Box 43844, 00100 Nairobi, Kenya.

2 Department of Environmental Health, School of Public Health, Kenyatta University, P.O. Box 43844, 00100 Nairobi, Kenya.

3 Department of Zoology, School of Pure and Applied Sciences, Kenyatta University, P.O. Box 43844, 00100 Nairobi, Kenya.

ARTICLE HISTORY

Received: 31.01.2012

Accepted: 20.03.2012

Available online: 10.08.2012

Keywords:

Health, sex, violence, consequences

*Corresponding author:

Email : justus.osano@gmail.com

Tel : +254 724869330

ABSTRACT

Sexual based violence (SBV) is a serious public health problem with profound impact on physical, social and mental health, both immediately and many years after the assault. While women and girls are the most visible survivors of sexual violence, they are far from being the only ones who suffer it. Children of both sexes constitute a large proportion of abused survivors, and adult men and the handicapped are minority groups who are also affected but often neglected in research and interventions. The aim of this study was to investigate health consequences, responses and prevention strategies of SBV among survivors in Coast Provincial General Hospital, Nairobi Women Hospital and Nyanza Provincial General Hospital. This was a cross-sectional study where both qualitative and quantitative methods were used to collect data. Two hundred and eighty survivors were interviewed, focus group discussions held and observation done. Data were analysed using predictive analytics software (PASW) version 17 and summarized using frequency tables and bar charts. Chi-square test was used to determine relationships between variables. The study revealed that, survivors (77%) suffered health consequences as a result sexual based violence. The study revealed that, 67% of those who suffered health consequences had psychological trauma, 35% physical injuries, 27% gynaecological disorders, 18% STIs, 15% HIV, 10% gastrointestinal disorders and 8% unwanted pregnancies. Collaborative model encompassing individual level, relationships, community level, and societal level supported by working legal institutions, committed political systems and active healthcare systems can be used to deal with SBV and associated health consequences.

INTRODUCTION

Sexual based violence (SBV) is a violation of human rights and a serious public health problem. It has a profound impact on physical, social and mental health, both immediately and many years after the assault. To date, sexual based violence has received insufficient attention from researchers, policy-makers and programme designers, and it has been a long struggle to have it recognized as a legitimate public health issue [1].

The effects of sexual based violence are enormous and multi-edged: physical, psychological, legal and economic, and are realized at various levels: individual (by both victim and perpetrator), family, community and national [2]. Health related effects include death, injuries, gynaecological disorders, unwanted pregnancy, adverse pregnancy outcomes, sexually transmitted infections, including HIV and mental distress such as fear, shame and anxiety [2]. Some of the services or responses

required include basic clinical management of bruises, tears and wound care; management of complications such as fistulas; prevention of tetanus; hepatitis B; prevention of HIV transmission through post-exposure prophylaxis (PEP); screening for STIs; pregnancy tests; emergency contraception; psychosocial counselling; forensic evidence collection; medication; follow-up care of the survivors; special care for child survivors; referral to support groups; elective abortion; post-abortion care (PAC); treatment of abortion complications and hygiene supply including pads [2]. This study investigated the health consequences of sexual violence among survivors attending Nairobi Women Hospital, Nyanza and Coast Provincial General hospitals in Kenya.

MATERIALS AND METHOD

The Study Design

This study used a cross-sectional study design in three

randomly selected provinces in Kenya and involved three provincial hospitals in them. Both quantitative and qualitative methods were used to investigate health consequences of sexual violence among survivors of sexual based violence.

The Study Area

The study involved Nairobi Women's Hospital (NWH), Nyanza Provincial General Hospital (NPGH) and Coast Provincial General Hospital (CPGH) in Kenya. Nairobi Women Hospital is situated in Nairobi city, Nairobi Province. Nairobi being the capital city of Kenya is located on 1° 17' 0" S, 36° 49' 0" E. Coast Provincial General Hospital (CPGH) is located in the city of Mombasa in south-eastern Kenya, on the coast of the Indian Ocean. Mombasa is the second-largest city in Kenya located on 4° 3' 0" S, 39° 40' 0" E. Nyanza Provincial General Hospital (NPGH) is located in the city of Kisumu in western Kenya, Nyanza Province. Kisumu is a Port City in western Kenya located on 0° 6' 0" S, 34° 45' 0" E and has elevation of 1,131 m (3,711ft) above sea-level.

METHODOLOGY

The study population constituted 280 survivors of sexual based violence accessing Nairobi Women Hospital, Nyanza and Coast Provincial General Hospital for treatment, preventive therapies, and psychological support. They included those visiting hospital for the first time, recently abused and revisiting. Other respondents who were included in the study were opinion leaders and health workers who gave key information.

Multistage cluster sampling method was used to determine the

study areas. From the eight clustered regions (provinces) in Kenya, three of them were simple randomly selected which included Nairobi, Nyanza and Mombasa. One provincial referral hospital was then randomly selected from the three sampled provinces which include Nairobi Women Hospital, Nyanza Provincial General Hospital, and Coast Provincial General Hospital. Both public and private referral hospitals were considered in selection and had equal chances of being selected.

Systematic sampling was then used to select the final sample based on the selection of every second survivor visiting the hospital on the day of the fieldwork. Where a patient was not interested in being included in the study, the next patient was considered instead. The health workers were randomly selected from the duty roster of the day from among health workers who were involved in the management of sexual violence patients.

The study used administrative records, which included the medical consultation appointment visit, and information from lay counsellors at the health facilities to recruit the participants for the focus group discussions (FGDs) with survivors of sexual violence. The participants for community FGDs were selected with the assistance of the leaders of sexual violence support groups. Key informant guides including interview schedules and focus group discussion guides were used to collect qualitative and quantitative data. Semi-structured, open-ended and closed interview schedule questionnaire was developed with flexible probing, ideal for investigating personal experiences on sexual based violence from the subjective perspective of each respondent. Focus group discussion guide was developed and

Table-1: Socio- Demographic characteristics of the study population.

Variable	CPGH ^a	NWH ^b	NPGH ^c	Total	Significance
Age					
Age in years (Mean)	14.6(9.4)	22.2(14.0)	16.4(9.4)	19(12.5)	-
Minor ^d	48(73.8%)	68(45.3%)	39(60%)	155(55.4%)	p<0.001 [*]
Adult ^e	17(26.2%)	82(54.7%)	26(40%)	125(44.6%)	
Sex					
Female	53(81.5%)	121(80.7%)	62(95.4%)	236(84.3%)	p=0.011 ^{**}
Male	12(18.5%)	29(19.3%)	3(4.6%)	44(15.7%)	
Marital status					
unmarried	61(93.8)	118(78.7%)	62(95.4%)	241(86.1%)	P<0.001 ^{**}
Married	4(6.2%)	32(21.3%)	3(4.6%)	39(13.9%)	
Education level					
Primary and below	51(78.5%)	69(46%)	34(52.3%)	154(55%)	p<0.001 ^{**}
Secondary	11(16.9%)	34(22.7%)	15(23.1%)	60(21.4%)	
Post-secondary	3(4.6%)	47(31.4%)	16(24.6%)	66(23.6%)	
Occupation					
Unemployed	52(80%)	83(55.3%)	48(73.8%)	183(65.4%)	p=0.015 ^{**}
Business	6(9.2%)	20(13.3%)	7(10.8%)	33(11.8%)	
Casual labour	4(6.2%)	16(10.7%)	5(7.7%)	25(8.9%)	
Office	1(1.5%)	20(13.3%)	2(3.1%)	23(8.2%)	
Housewife	2(3.1%)	11(7.3%)	3(4.6%)	16(5.7%)	

Data is presented as n (X%). Where not indicated, values in parenthesis are standard deviation of the mean. an=65; bn=150; c n=65; d <18 years; e >18 years; *Chi-square test; **Fisher's exact test.

Table-2: Proportion of survivors who suffered health consequences

Variable	Health consequences		Level of Significance
	Suffered	Not suffered	
Age group			
Minor	118(76%)	37(24%)	$\chi^2=0.084$; df=1; p=0.772
Adult	97(78%)	28(22%)	
Gender			
Female	180(76%)	56(24%)	$\chi^2=0.223$; df=1; p=0.637
Male	35(79%)	9(21%)	
Marital status			
Unmarried	187(78%)	54(22%)	$\chi^2=0.633$; df=1; p=0.426
Married	28(72%)	11(28%)	
Education level			
Primary and below	116(75%)	38(25%)	$\chi^2=0.413$; df=2; p=0.813
Secondary	47(78%)	13(22%)	
Post-secondary	52(79%)	14(21%)	
Occupation			
Unemployed ^a	142(78%)	41(22%)	$\chi^2=5.1$; df=4; p=0.272
Housewife ^b	14(87%)	2(13%)	
Casual labourer ^c	18(72%)	7(28%)	
Business ^d	27(81%)	6(19%)	
Office ^e	14(61%)	9(39%)	

Data are presented as n (X%) unless indicated. *Age (minor n=155, adult n=125); Gender (female n=236, male n= 44) and marital status (unmarried n=241, married n=39); education (primary and below n=154, secondary n=60, and post-secondary n=66); an=183, bn=33, cn=25, dn=23, en=16.

used mainly to collect qualitative data. Two types of focus group were done involving sexual violence survivors and with representatives of the local communities.

Quantitative data were initially stored in an Access Database (Microsoft Access, 2007). Statistics were then generated using Predictive Analytics Software (PASW) version 17. The Pearson's Chi-square test was used to show associations between independent and dependent variables. The 95% confidence intervals were estimated by maximum likelihood ratio. Logistic regression was used to determine the relationship between several independent or predictor variables and a dependent or criterion variable.

RESULTS

Socio-demographic characteristics of the study population

Results in table 1 presents the socio-demographic characteristics of sexual based violence survivors. Overall, a total of 280 survivors in three provincial hospitals were enrolled in the study. The overall mean age of survivors was 19 years (Table 1). The results indicated that 55.4% of those who were sexually abused were minors (<18 years) compared to 44.6% who were adults. The study found that the age youngest survivor was 2 months old while the oldest survivor was 68 years.

The results indicate that the proportion of females (84.3%) compared to that of males (15.7%) was consistently higher in all the three study areas (CPGH = 81.5%, NWH = (80.7%), NPGH = (95.4%) (Table 3). The results showed that, proportions of unmarried (86.1%) and married (13.9%) survivors differed significantly (p<0.001) (Table 1). The highest numbers of survivors were unmarried (86.1%) (Table 3). The study indicated that, the proportion of survivors in different levels of education differed significantly (p<0.001) (table 3). The result showed that

the proportion of survivors in various occupations differed significantly (p=0.015). Most of the survivors (65.4%) were unemployed, 11.8% were business people, 8.9% casual labourers, 8.2% office, and 5.7% housewives (Table 1).

Health consequences of SBV

The study revealed that respondents (77%) suffered health consequences as a result sexual based violence. The proportion of survivors with health problems due to SBV was high in all the study areas (NPGH = 92%, NWH = 72% and CPGH = 70%)

The study established that, the proportion health problems suffered were significantly different in the study areas (P= 0.003). Nyanza Provincial General Hospital was more likely to experience reported cases of health problems compared to CPGH and NWH.

There was no significant difference in the proportion of minor and adult survivors who suffered health consequences due to sexual based violence ($\chi^2=0.084$; df=1; p=0.772) (Table 4). The study indicated no significant difference in the proportion of survivors with various levels of education who suffered health consequences ($\chi^2=0.413$; df=2; p=0.813). The proportion of survivors in different occupations who suffered health consequences was not significantly different ($\chi^2=5.1$; df=4; p=0.272) (Table 2).

Types of health consequences

Table 3 Show types of health consequences among survivors. The study revealed that, of the 215(77%) SBV survivors who developed health consequences, 67% of them had psychological trauma, 35% physical injuries, 27% gynaecological disorders, 18% STIs, 15% HIV, 10% gastrointestinal disorders and 8% unwanted pregnancies.

Table-3: Types of health consequences suffered by survivors

Variable*		Health consequences		Odds Ratio
		Suffered	Not suffered	
Psychological consequences				
Age	Minor	72(46%)	83(54%)	0.7(0.4- 1.1)
	Adult	71(57%)	54(43%)	
Gender	Female	122(52%)	114(48%)	1.2(0.6- 2.2)
	Male	21(58%)	23(42%)	
Marital status	Unmarried	126(52%)	115(48%)	1.4(0.7-2.8)
	Married	17(44%)	22(56%)	
Physical injuries				
Age	Minor	40(26%)	115(74%)	0.9(0.5- 1.5)
	Adult	35(28%)	90(72%)	
Gender	Female	61(26%)	175(74%)	0.7(0.4- 1.5)
	Male	14(32%)	30(68%)	
Marital status	Unmarried	65(27%)	176(75%)	1.1(0.5-2.3)
	Married	10(26%)	29(74%)	
Gynaecological consequences				
Age	Minor	72(46%)	83(54%)	0.7(0.4- 1.1)
	Adult	71(57%)	54(43%)	
Marital status	Unmarried	28(12%)	213(88%)	0.6(0.2-1.5)
	Married	7(18%)	32(82%)	
Sexually transmitted infections				
Age	Minor	19(12%)	136(88%)	0.8(0.4- 1.5)
	Adult	19(15%)	106(85%)	
Gender	Female	35(15%)	101(85%)	2.3(0.7-8.1)
	Male	3(7%)	41(93%)	
Marital status	Unmarried	31(13%)	210(87%)	0.7(0.3-1.7)
	Married	7(18%)	32(82%)	
HIV				
Age	Minor	17(11%)	138(89%)	0.9(0.4- 1.9)
	Adult	15(12%)	110(88%)	
Gender	Female	29(12%)	107(88%)	1.9(0.6-6.6)
	Male	3(7%)	41(93%)	
Marital status	Unmarried	26(11%)	215(89%)	0.7(0.3-1.7)
	Married	6(15%)	33(85%)	
Gastrointestinal consequences				
Age	Minor	8(5%)	147(95%)	0.5(0.2- 1.2)
	Adult	13(10%)	112(90%)	
Gender	Female	12(5%)	124(95%)	0.2(0.1- 5.0)
	Male	9(20%)	35(80%)	
Marital status	Unmarried	16(7%)	225(93%)	0.5(0.2-1.4)
	Married	5(13)	34(87%)	
Unwanted pregnancies				
Age	Minor	11(7%)	144(93%)	1.5(0.5- 4.2)
	Adult	6(5%)	119(95%)	
Marital status	Unmarried	15(6%)	226(94%)	1.2(0.3-5.6)
	Married	2(5%)	37(95%)	

Data are presented as n (X%) unless indicated. *Age (minor n=155, adult n=125); Gender (female n=236, male n=44) and marital status (unmarried n=241, married n=39).

Psychological consequences

Psychological consequences 143(51%) were the most reported among the survivors of SBV who suffered health consequences. Minors were lesser likely to suffer from psychological consequences compared to adults (OR= 0.7,

CI=0.4- 1.1) (Table 3). The study revealed that, females compared to males, were more likely to suffer psychological consequence after SBV (OR=1.2, CI=0.6- 2.2) (Table 5). Being unmarried increased chance of an individual suffering from psychological consequences (OR=1.4, CI=0.7-2.8) (Table 5).

Table-4: Types of health consequences suffered by survivors

Variable*		Specific health consequences		OR (95% CI)
		Suffered	Not suffered	
Types of psychological consequences				
Fear				
Gender	Female	104(44%)	132(56%)	1.4(0.7- 2.7)
	Male	16(36%)	28(64%)	
Minor	Minor	67(43%)	88(57%)	1.0(0.6- 1.7)
	Adult	53(42%)	72(58%)	
Shame				
Gender	Female	75(32%)	161(68%)	0.8(0.4- 1.6)
	Male	16(36%)	28(64%)	
Minor	Minor	47(30%)	108(70%)	0.8(0.5- 1.3)
	Adult	44(35%)	81(65%)	
Depression				
Gender	Female	68(29%)	168(71%)	1.0(0.5- 1.9)
	Male	13(29%)	31(71%)	
Minor	Minor	39(25%)	116(75%)	0.7(0.4- 1.1)
	Adult	42(34%)	83(66%)	
Anxiety				
Gender	Female	43(18%)	193(82%)	0.7(0.3- 1.6)
	Male	10(23%)	34(77%)	
Minor	Minor	30(19%)	125(81%)	1.0(0.6- 1.9)
	Adult	23(18%)	102(82%)	
Low self-esteem				
Gender	Female	39(16%)	197(84%)	1.0(0.4- 2.5)
	Male	7(16%)	37(84%)	
Minor	Minor	27(17%)	128(88%)	1.1(0.6- 2.2)
	Adult	19(15%)	106(85%)	
Type of physical injuries				
Soft tissue injuries				
Gender	Female	45(19%)	191(81%)	2.4(0.8- 6.9)
	Male	4(9%)	40(91%)	
Age	Minor	27(17%)	128(83%)	0.9(0.5- 1.8)
	Adult	22(18%)	103(82%)	
Anal region injuries				
Gender	Female	1(0.4%)	235(99.6%)	0.01(0.0- 0.2)
	Male	8(18%)	36(82%)	
Age	Minor	7(4%)	148(96%)	2.9(0.6- 14.2)
	Adult	2(1%)	123(99%)	
Limbs injuries				
Gender	Female	8(3%)	228(97%)	0.3(0.1- 0.9)
	Male	5(11%)	39(99%)	
Age	Minor	5(3%)	150(97%)	0.5(0.1-1.5)
	Adult	8(6%)	117(94%)	

Data are presented as n (X%) unless indicated. *Gender (female n=236, male n= 44); Age (minor n=155, adult=125)

Fear was reported by the highest proportion of respondents (43%) followed by shame (33%), depression (29%), anxiety (19%) and low self-esteem (16%). Females compared to males were more likely to experience fear (OR=1.4, CI= 0.7- 2.7) while less likely to experience shame (OR=0.8, CI= 0.4- 2.7) and anxiety (OR=0.7, CI=0.3- 1.6) (Table 6).

Depression and low self-esteem were experienced equally by both genders (OR=1.0, CI=0.5- 1.9). The study revealed that

minors compared to adults were more likely to suffer from Low self-esteem (OR=1.1, CI=0.6- 2.2) and less likely to suffer from shame (OR=0.8, CI=0.5- 1.3) and depression (OR=0.7, CI=0.4- 1.1) (Table 4.9). Both minors and adults were equally likely to experience fear and anxiety (OR=1.0, CI=0.6- 1.7) (Table 6).

Physical injuries

Thirty five percent of physical injuries were reported among

Table-5: Types of health consequences suffered by survivors

Variable*		Specific health consequences		OR (95% CI)
		Suffered	Not suffered	
Types of gynaecological consequences				
Virginal fistula				
Age	Minor	16(10%)	139(90%)	2.6(1.0- 6.8)
	Adult	8(6%)	117(94%)	
Uncontrolled bleeding				
Age	Minor	12(8%)	143(92%)	1.7(0.6- 4.6)
	Adult	6(5%)	119(95%)	
Bruises in private parts				
Age	Minor	11(7%)	144(93%)	4.7(1.0- 21.6)
	Adult	2(2%)	123(98%)	
Pelvic pain				
Age	Minor	3(2%)	152(98%)	1.8(1.6- 2.0)
	Adult	0(0%)	125(100%)	
Types of STIs				
HIV				
Gender	Female	32(14%)	204(86%)	2.1(0.6- 7.3)
	Male	3(7%)	41(93%)	
Minor	Minor	17(11%)	138(99%)	0.7(0.4- 1.5)
	Adult	18(14%)	107(86%)	
Syphilis				
Gender	Female	3(1%)	233(99%)	1.0(1.0- 1.0)
	Male	0(0%)	44(100%)	
Minor	Minor	2(1%)	153(99%)	1.6(0.1- 18.1)
	Adult	1(1%)	124(99%)	
Urinary tract infection				
Gender	Female	3(1%)	233(99%)	1.0(1.0- 1.0)
	Male	0(0%)	44(100%)	
Minor	Minor	1(1%)	154(99%)	1.8(1.6- 2.0)
	Adult	0(0%)	125(100%)	
Gastrointestinal disorders				
Age	Minor	1(1%)	154(99%)	1.8(1.6- 2.0)
	Adult	0(0%)	125(100%)	

Data are presented as n (X%) unless indicated. *Gender (female n=236, male n= 44); Age (minor n=155, adult n=125)

survivors who suffered health consequences. The study revealed that, minors compared to adults were less likely to suffer from physical injuries (OR=0.9, CI=0.5- 1.5) (Table 5). Also, females compared to males were less likely to suffer from physical injuries (OR=0.7, CI=0.4- 1.5). It was established that, unmarried were more likely to suffer from physical injuries compared to married survivors (OR=1.1, CI=0.5-2.3) (Table 3). There was no significant difference in the proportion of survivors with different levels of education (primary and below = 29%, secondary = 27% and post-secondary = 23%) who suffered from physical injuries ($\chi^2=6.493$; df=2; p=0.669). This meant that anyone would suffer from physical injuries due to SBV regardless his or her level of education.

There was no significant difference in the proportion of survivors in various occupations (housewife = 37%, casual labourer = 16%, business = 27, unemployed =28% and office = 22%) who suffered from physical injuries (p=0.586). This meant that physical injuries due to SBV would occur to anyone regardless of his or her occupation.

Soft tissue injuries (18%) mainly featured among people who suffered physical injuries as a result of SBV. Other injuries included limb injuries (4%), injuries on the anal region (3%) and pelvic pain (2%).

Females compared to males were more likely to suffering from soft tissue injuries (OR= 2.4, CI= 0.8- 6.9) and less likely to suffer from anal region injuries (OR=0.01, CI=0.0- 0.2) and Limbs injuries (OR=0.3, CI=0.1- 0.9) (Table 6). The study revealed that minors compared to adults were more likely to suffer from anal region injuries (OR=2.9, CI=0.6-14.2), and less likely to suffer from soft tissue (OR=0.9, CI=0.5- 1.8) and Limbs injuries (OR=0.5, CI=0.1-1.5) (Table 6).

Gynaecological consequences

The study found that 27% of the gynaecological consequences were reported among respondents who suffered health consequences. Female survivors with gynaecological consequences suffered from virginal fistula (8%), uncontrolled bleeding (6%), bruises in private parts (5%) and pelvic pain (1%). The study found that minors compare to adults were more likely to

suffer from virginal fistula (OR=2.6, CI=1.0- 6.8), uncontrolled bleeding (OR=1.7, CI=0.6- 4.6), bruises in private parts (OR=4.7, CI=1.0- 21.6) and pelvic pain (OR=1.8, CI=1.6- 2.0) (Table 7).

Health workers 37(100%) interviewed informed the study that gynaecological disorders treated in the study hospitals included bruises in private parts (76%), uncontrolled bleeding (70%), virginal fistula (62%), pelvic inflammatory disease (PID) (60%) and pelvic pain (57%). Pelvic inflammatory disease was the health problem commonly mentioned by health workers in all study areas {CPGH (50%), NWH (75%), and NPGH (54%)} and which was never mentioned by survivors.

Sexually transmitted infections

Thirty eight percent of STIs were reported among survivors who suffered health consequences. The study revealed that being a female increased the likelihood of acquiring a sexually transmitted infection (OR=2.3, CI= 0.7-8.1) (Table 5). It was found out that unmarried individuals were less likely to contract STIs (OR= 0.7, CI=0.3-1.7) (Table 3). Of the survivors 38(18%) who suffered from STIs, 90% of them suffered from HIV as a result of SBV, 8% syphilis, and 2% with urinary tract infection.

The study revealed that females compared to males were more likely to suffer from HIV (OR=2.1, CI=0.6- 7.3) (Table 7). The study found out that minors compared to adults, were more likely to suffer from syphilis (OR=1.6, CI=0.1- 18.1), urinary tract infection (OR=1.8, CI=1.6- 2.0) and less likely to suffer from HIV (OR=0.7, CI=0.4- 1.5) (Table 5).

Health workers 37(100%) listed a number of STIs which were as a result of SBV and treated in their hospitals. They included HIV 29(78%), chlamydia 28(76%), chancroid 27(73%), candidiasis 27(73%), syphilis 26(70%), gonorrhoea 26(70%), genital herpes 20(54%), trichomoniasis 20(54%), human papilloma virus 18(49%), hepatitis B 18(49%) and urinary tract infection 16(43%). Some of these infections would not be mentioned by survivors due to lack of knowledge on them.

Gastrointestinal disorders

The only gastrointestinal disorder (7%) reported by survivors was flatulence {CPGH (11%), NWH (5%) and NPGH (8%)}. This was confirmed by the key informants (49%) who also reported flatulence in all the study hospitals {CPGH (42%), NWH (50%), and NPGH (54%)}. There was a significant difference in the proportion of females and males who suffered from gastrointestinal disorder ($\chi^2=12.628$; df=1; $p<0.001$). Females compared to males were less likely to suffer from flatulence (OR=0.2, CI= 0.1- 0.6). Minors compared to adults were less likely to suffer from flatulence OR=0.4, CI=0.1- 1.0) (Table 7).

DISCUSSION

The study revealed that sexual violence resulted in serious health consequences ranging from psychological consequences, physical injuries, gynaecological disorders, gastrointestinal disorders and sexually transmitted infections, among others. Findings of this kind concurred with other studies elsewhere [1,2,3,4] which list death, injuries, gynaecological disorders, unwanted pregnancy, adverse pregnancy outcomes, sexually transmitted infections including HIV and mental distress such as fear, shame and anxiety as among them. In her presentation, Nakijoba 2009 [5] reported that the effects of sexual based violence are enormous and multi-edged: physical, psychological, legal and economic and are realized at various levels: individual (by both victim and perpetrator), family, community and national

levels.

The study found that both males and females experienced health consequences almost equally. These findings are consistent with studies done by Kilonzo et al., (2009); Population Council, (2008) and Médecins Sans Frontières (2009) [1,3,4] that pointed out that as is the case with female victims of sexual assault, male victims are likely to suffer from a range of health problems, both in the immediate period after the assault and over the longer term. Male sexual violence are likely to be underreported due to shame, guilt and fear. As Médecins Sans Frontières, (2009) and Bhandari, (2005) [4, 6] put it, myths and strong prejudices surrounding male sexuality also prevent men from coming forward. That means that they continue suffering silently without professional assistance.

Psychological consequences were the most reported among the survivors of sexual based violence. Psychological consequences reported included fear, shame, depression, anxiety and low-self esteem. Females compared to males were more likely to experience fear while less likely to experience shame and anxiety. These findings concur with various studies on psychosocial problems done by Elson et al., (2010); Ajema et al., (2009) and Vetten et al., (2008) [7,8,9].

The study did not find significant differences in reported cases of psychological consequences between females and males. However, females compared to males, were more likely to suffer psychological consequence after SBV. Psychological consequences make it difficult to take the necessary history and statements from the survivor, conduct a physical examination, or collect forensic evidence [10]. Physical injuries were reported in the study. It was revealed that, minors compared to adults and females compared to males were less likely to suffer from physical injuries. This was due to the fact that minors and females did not resist sexual violence as adults and males would do. Resisting would result to use of force and hence physical injuries. To these situations resisting and fighting back was likely to result to life threatening injuries and even morbidity [3]. Physical injuries reported included soft tissue injuries, limb injuries, and injuries on the anal region. In their study, Population Health, (2008) and Kilonzo & Taegtmeier, (2005) [3, 11] established that some of these physical injuries would be life-threatening and survivors of sexual abuse may have physical injuries that require immediate attention.

Reproductive health problems which were reported in the study included unwanted pregnancies, bruises in private parts, urinary tract infections, uncontrolled bleeding, virginal fistula, pelvic inflammatory disease (PID), and pelvic pain. Girls (<18 years) had a higher risk of suffering from all the gynaecological disorders compared to adult women. These findings are the same as those documented by [3].

Cases of sexually transmitted infections such as HIV, syphilis, urinary tract infection and gonorrhoea were reported. Other STIs included chlamydia, chancroid, candidiasis, syphilis, gonorrhoea, genital herpes, trichomoniasis, human papilloma virus, hepatitis B and urinary tract infection. Sexually transmitted infections have been documented in various studies [12, 10, 3, 13, 14, and 15].

The study revealed that females compared to males and minors compared to adults were more likely to suffer from HIV. These findings were consistence with study documented by Speight et al., (2006) [13]. Elsewhere it is documented that

sexual abuse is one of the factors which contribute to high prevalence of HIV among females [16,17].

CONCLUSION

The study revealed that survivors of sexual based violence suffered health consequences. Among the health consequences suffered include physical injuries, Gynaecological consequences, psychological consequences, gastrointestinal disorders and unwanted pregnancies. The study found that both males and females experienced health consequences almost equally. Education and communication strategy; strengthening of the existing institutions handling sexual violence; coordination of sexual violence related interventions by different stakeholders and strengthening networking will be important in dealing with health consequences of sexual based violence. Gender equity is essential in mitigating health consequences of sexual based violence; Legal aid services should be provided to those who are unable to meet them. Collaborative approach encompassing the individual level, dealing with relationships, community level involvement, and societal level which should be supported by working legal institutions, committed political systems and active healthcare systems can be used in dealing with SBV and health consequences.

ACKNOWLEDGEMENT

We are most grateful to the Management of the Provincial Hospitals: Coast Provincial General Hospital, Nairobi Women Hospital and New Nyanza Provincial General Hospital for allowing us to collect and avail needed data without which this work would not be possible. Their cooperation is highly appreciated. We extend our heartfelt gratitude to all who participated in this study in one way or another. Equally appreciated are the members of staff, School of Public Health, Kenyatta University for their critical suggestions at the different stages.

REFERENCES

1. Kilonzo, N., Keesbury J., Maternowsko, C. Sexual violence: setting the research agenda for Kenya. Population Council: Nairobi, 2009.p.5
2. Mugawe D, Powell A. Born to high risks: Violence against girls in Africa. The African child policy forum: Adisa Ababa, 2006.
3. Population Council. Sexual and gender based violence in Africa. Literature review Population council inc.: Nairobi, 2008.p.1-3
4. Médecins Sans Frontières. Shattered lives: Immediate medical care vital for sexual violence victims. Médecins Sans Frontières: Brussels, 2009.p.8-14
5. Nakijoba V. Access and utilization of health sector responses to sexual violence in conflict and post-conflict settings: the case of northern Uganda. Paper presented at the SVRI forum 2009, 6-9 July, Johannesburg, South Africa, 2009.
6. Bhandari N. Working with men and boys: to end Violence against Girls, Boys, Women and other Men. Save the Children Sweden and UNIFEM, Kathmandu, Nepal, 2005.
7. Elson L, Keesbury J. "PEPFAR Special Initiative on Sexual and Gender-Based Violence: Baseline Report." United States Agency for International Development: Population Council: Lusaka, 2010.p.4
8. Ajema C, Rogena E, Muchela H, Buluma B, Kilonzo N. Standards required in maintaining the chain of evidence in the context of post-rape care services: Findings of a study conducted in Kenya. Liverpool VCT Care & Treatment, the Kenyan Ministry of Health Division of Reproductive Health and the Population Council: Nairobi, 2009.p.1-3
9. Vetten, L. Tracking Justice: The attrition of rape cases through the criminal justice system in Gauteng. Tshwaranang Legal Advocacy Center, the South African Medical Research Council and the Centre for the Study of Violence and Reconciliation: Johannesburg, 2008.p.40-42
10. Keesbury, J. and Askew I. "Comprehensive responses to gender-based violence in low-resource settings: Lessons learned from implementation." The Population Council, Inc.: Population Council: Lusaka, 2010.p.8-33
11. Kilonzo, N. & Taegtmeier M.. Comprehensive Post-Rape Care Services in Resource- Poor Settings: Lessons learnt from Kenya. Liverpool School of Tropical Medicine. Nairobi, Kenya, Liverpool VCT Kenya. Policy Briefings for Health Sector Reform : No. 6, September 2005.
12. Sajeda, A. and Althea, D. A. Addressing sexual and gender-based violence (SGBV) against adolescent girls. NY: Population Council: New York, 2011.BriefNo. 30
13. Speight CG, Klufio A, Kilonzo SN, Mbugua C, Kuria E, Bunn J, Taegtmeier M. 'Piloting post-exposure prophylaxis in Kenya raises specific concerns for the management of childhood rape'. Transactions of the Royal Society of Tropical Medicine and Hygiene: Vol. 100(1):14-18.
14. Ellis, J.C. "Introduction of HIV post-exposure prophylaxis for sexually abused children in Malawi," Arch Dis Child, 2005; 90:12971299
15. Kishor S, Johnson K. Profiling Domestic ViolenceA Multi-Country Study. Calverton: ORC Macro: Maryland, 2004.p.21
16. Maranga R.O., Muya S. M. and Kenneth O. Ogila. Foundations of HIV and AIDS Education. A textbook for students at tertiary Institutions. Jomo Kenyatta University of Agriculture and Technology: Thika, 2008.p.39-45
17. National AIDS and STI Control Programme (NASCOP), Kenya. 2007, Kenya AIDS Indicator Survey: Final report. Government press: Nairobi, 2009.p.12-20