

Relationship between Level of Social Support and Symptoms of Depression among Survivors of Intimate Partner Violence in Sub-County, Nairobi Kenya

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Abstract

Studies on the social support among women survivors of IPV in the Kenyan society is very minimal. This research presents one mental health outcome of Intimate Partner Violence (IPV), that is, depression, and how it is affected by social support. Using a sample size of 193 respondents from Kayole, this research assessed the effectiveness of social support to the female survivors of IPV. These female survivors were either in the intimate relationship or had left the relationship. The Hurt Insult Threaten and Scream (HITS) screen was used to screen respondents for IPV and all the respondents were either experiencing one or more forms of IPV. The result also showed that high percentage of respondents had depression 44.6% ranging from moderate to severe symptoms on Beck's Depression Inventory (BDI). The BDI and HITS scores were positively correlated. Respondents with severe IPV occurrence showed severe depressive symptoms. The result further showed that those with higher scores in BDI and HITS, have poorer social support system. This study also showed that there is a significant strong positive association among the different forms of social support. Poor social support implies high scores in IPV and BDI. Therefore, social support must highly be explored in the treatment of IPV. In order to improve the depressive one must improve the social support system. It can be concluded therefore that in order to improve the depressive state one must improve the social support system.

Keywords: Female Survivors; Intimate Partner Violence; Depression; Social Support System

Introduction

Intimate partner violence (IPV) is violence within a domestic set up between a husband and his wife, ex-partners, boyfriend and girlfriend and dating partners [1]. It is the most common form of violence women encounter across the globe [2]. It is a coercive tactic used to establish power and control over the other by one of the partners. The violence is not only physical, but sexual, psychological, economic or controlling behavior of one partner against the other. In other words, any abuse that causes physical, psychological, economic and sexual harm within an intimate relationship, by one party against the other is considered IPV.

The physical violence may include slapping the partner with the hand, hitting with objects such as rods, cane or any physical object, kicking and beating. While Sexual violence borders rape as is in form of forced sexual intercourse against one's will or being forcefully dragged into sexual intercourse using threats. The violence perpetuated psychologically is in form of belittling the survivor emotionally or treating the survivor with contempt. Emotional abuse could be verbal (insulting, humiliation, intimidation, such as destroying the others valuables, threats which include harming or taking away the children) or non-verbal (using silence as a weapon to intimidate the partner). A controlling behavior is used by the perpetrator by isolating the sexual partner from other members who are significant to them. Behavioral abuses are also caused by stalking, denying financial resources and other basic needs. The abuse is economic in nature when one party denies the other the right to work so as to earn her own funds for self-support.

Intimate Partner Violence is universal [2-4]. It is a common phenomenon the world over and a painful reality in many homes [5,6]. It can be found in all races, religion and across all socioeconomic groups [7,8]. Women, irrespective of their ethnicity, race, or socio-economic status, are more likely to be terrorized, injured, or killed within IPV [9].

The morbidity and death rate associated with IPV in the US are ranked very high as a public health issue [10]. The IPV occurrence rate in the life time of women in the US was one in every four women [11]. Karakurt, Smith and identified common acts of violence women go through to include rape, incite, physical violence and emotional abuse [12]. Indicates that one in every three women globally experiences violence either physically or sexually or both by a partner or non-partner in her life time [13].

According to 39% of women have encountered IPV and it is a long standing problem in Kenya [14]. There is also an engrained belief about gender roles and marriage which has been affected by this practice. IPV is deeply rooted as societal inequalities and women bear the brunt of such cruelty [12,5].

Most of the data collected across the globe focuses on IPV perpetrated by men against women in heterosexual relationships [4]. It must be noted that IPV can not only be found among heterosexual couples but also be found among same sex couples [15]. In their research Swart, *et al.* (2012) addressed the abusive characteristics that prevails among the lesbian, gay, bisexual and transgender (LGBT) relationships which are similar to those of heterosexual relationships at the same rate or even at a higher rate than the heterosexual relationships [16].

IPV cuts across countries, cultures, gender, age and even in research literatures, in areas like criminology and social sciences. It is a worldwide problem which is under-recognized and has to be tackled in all spheres of life since impact on the physical and mental health not only of the survivors but also on those who depend on her. Social support plays a significant role in toning down IPV. Social support is the behaviors exhibited by loved ones or significant others towards the needs of the individual who is dealing with a stressful situation. Green and Pomeroy (2007) agree that social support plays a vital role in the recovery process from the psychological consequences of victimization. Fortin, *et al.* affirmed that social support from significant others has positive influence emotionally on the stressed partner [17,18]. At the same time, the support reduces the impact of stress by providing rational thoughts where irrational thoughts dominate. The lack of social support, on the other hand, can be linked with the survivor's poor adaptation and distress [17].

Studies have documented both the forms and the psychological effects of IPV in Kenya, however, less research has been done on the social support of IPV in Kenya, though Kiprotich and Ngeno (2010) affirm that extended family plays a supportive role in the intervention of IPV, the extended family however, often encourage silence to protect the image of the family [14]. The extended family, sometimes, plays a role in fueling the IPV since it is viewed as a normal societal norm. Observation in Kenyan culture show that women generally do not separate from their partners after domestic violence. Getting out of marriage, or getting a divorce due to domestic violence is not something that is encouraged in Kenyan society [14]. Social support would serve a preventive measure in minimizing the psychological effect that may arise due to IPV.

This study therefore, examined the general overview of what social support renders to survivors of intimate partner violence (IPV). It highlighted the background of social support in relation to some of the psychological outcomes of IPV especially depression. If social support plays a very important role in the life of the survivor of IPV, then it is necessary that health, psychological, pastoral workers and social workers acquire a better understanding of this reality as they assist those who have gone through or are going through IPV. It should be noted that men can also be survivors of IPV, however, the concept of IPV in this study will typically refer to women only.

Methodology

Research Design and Ethical Consideration

This was a cross-sectional study design that used quantitative data collection methods to enumerate the data. The information obtained from the raw data was critically analyzed using SPSS version 24 to ascertain the social support and severity of depressive symptoms. The exposure (IPV and perceived social support) and outcome variables were finally correlated to determine their relationship. The five APA principles of ethics in human research, as outlined by the American Psychological Association Code of Conduct and Ethical Principles (2010) namely; informed consent, beneficence and maleficence, fidelity and responsibility, Integrity, Justice, Respect for peoples right and dignity were strictly observed during data collection [19].

Study Setting and Population

Kayole, a suburb of Nairobi, the capital city of Kenya was selected as the study site. It is 10.8km away from the Nairobi city center and it forms part of the larger Embakasi constituency. Kayole was chosen as a study site because most of the research on IPV in Kenya have been done in informal settlement areas such as Kibera which is a very low income community [20]. Kayole falls neither within the slum nor affluent community. However, it is densely populated and falls within the lower economic class society in Kenya. According to softkenya.com (2012) the population of the Embakasi central constituency is 185,948. The total number of women is 90,089 [21,22].

The target population for the study recruited adult women aged 18 and 60 years residing in Kayole who are in or have been in heterosexual intimate relation for at least two years. This target population fits into the description of Kothari (2004) who states that a target population is the total number of items about which information is desired [23]. This target population was either officially married or in “come-we-stay” and/or in boyfriend/girlfriend relationship. A total number of 193 females were recruited.

Sampling Technique and Instruments for Data Collection

Using both purposive and snowball sampling techniques, the women respondents who had experienced IPV in their heterosexual relationships were recruited. Since purposive sampling is a non-probability sampling technique whereby a researcher deliberately chooses the informant due to the qualities the informant possesses the technique was chosen for this research as it captures characteristics of the survivors of IPV [24]. Respondents who were willing to provide the information by virtue of knowledge or experience were sought for [24,25]. Since IPV was thought to be a sensitive issue during the proposal development, the respondents were called in seclusion for discussion. However, during data collection, this turned out to be the contrary that the survivors never saw IPV as something secretive, rather as the norm of their relational or marriage lives. This gave way to identify some survivors purposively at the church, health centers and at the chief's camp. The recruited respondents referred friends who had had IPV to the researchers thereby fulfilling the snowballing process. Browne (2007) defines snowball sampling as a recruitment method that employs research into respondents' social networks to access specific populations [26]. Since snowball sampling was used for “hidden” population, in this study the target population was presumed to be hidden due to the sensitivity of the IPV. After recruiting the IPV respondents, the snowball sampling helped the respondents to account for what was going on in their own lives as the met and explained to the next respondents before recruitment.

The data collection instruments administered to the respondents in the study included: the Hurt, Insult, Threat and Scream (HITS) screen, Beck Depression Inventory (BDI) and Support Questionnaire (SSQ). The HITS screen, psychological tool for detecting forms of violence in a relationship [27]. It has four questions to assess risk for Intimate Partner Violence (IPV). The tool evaluates how often the survivor's partner hurts, insults, threatens or screams at her. Using a five point Likert scale from 1 to 5, with 1 being “never” and 5 being “frequently”, the survivor had scores ranging between 4-20 points. Any score above 10 points indicated severe suffering from abuse. The Cronbach's alpha for the Women's Health and Life Experiences questionnaire, HITS version is 0.86 [28]. This tool was utilized to determine the extent of IPV. The second tool, BDI was used to assess the presence and severity of depressive symptoms among the respondents.

This instrument was created by Beck has a 21-question multiple-choice self-report inventory, each with four possible responses which measure the intensity, severity and depth of depression in patients with psychiatric diagnoses [29,30]. The BDI can be interpreted as one syndrome (depression) composed of three factors: negative attitudes toward self, performance impairment, and somatic (bodily) disturbance. In its current version, the BDI-II questionnaire is designed for individuals aged 13 and above. The first composed items (1 to 13) assess symptoms of depression: hopelessness, irritability, cognitions such as guilt or feelings of being punished. The following composed items assess physical symptoms (items 14 to 21) such as fatigue, weight loss and lack of interest in sex. The BDI has widely been used to assess the symptoms of depression among clinical and normal populations. It has been shown to be a reliable and valid measure. For the same BDI, Beck, Steer and Garbin (1988) previously reported a split-half reliability of .93. In Kenya, it has widely been used in research and has been found to have sound psychometric properties [31, 32]. The Cronbach's alpha for the Swahili version of BDI-II is 0.89 [33]. This tool was used in this study to measure the levels of depression among the survivors of IPV.

The diversity of social support was measured using the social support dimensions of intimacy, social integration, nurturance, self-worth, alliance and guidance. These measures were assessed using SSQ which has 27 items that quantifies these dimensions of perceived availability and satisfaction with social support. The social support questionnaire is highly reliable and valid [34]. The Cronbach's alpha for the SSQ is 0.86 [35].

Data Management and Analytic Plan

The data was first sorted, coded and given to two clerks for double entry using access package of windows XP version 10. The data was cleaned and exported to the SPSS version 23 analysis package. Exploratory data analysis techniques were used to describe the social demographic characteristics, forms of IPV, presence and severity of depressive disorder, and finally the social support system within the society. To ascertain the distribution of the different variables and to compare them within the study respondents as a group, an inferential statistics using correlation coefficient was applied. At the same time, analyses were made to inferentially determine associations among affected survivors who develop depressive disorder, p set at 0.05 in the correlational or binary chi square testing.

Results

Table 1 shows the association between respondents who met the criterion of IPV and socio-demographic characteristics. The age had a statistically significant difference; older age categories had more respondents who met the IPV criterion compared to the younger age category. This could be an indication either that the younger aged category was not very much open to share the violence in their relationships or this study has proven to the contrary that older aged group has violent relationship which is contrary to the assumption of society that there is no violence in older age relationships.

There was a higher prevalence of IPV among those who were either divorced or separated, indicating IPV could have been the likely cause of their current marital status. Education attainment was a statistically significant factor, those with higher prevalence of IPV were those with lower education, inferring that lower education attainment could be the likely cause of respondent being abused by the intimate partner.

Covariate	Presence of IPV		χ^2 statistics	p-value
	No (53.4%) 103/193	Yes (46.6%) 90/193		
Age				
Between 18-27years	70.6% (24/34)	29.4% (10/34)	5.303	0.049*
Between 28-37 years	52.1% (37/71)	47.9% (34/71)		
Between 38-47 years	49.0% (25/51)	51.0% (26/51)		
Between 48-60 years	45.9% (17/37)	54.1% (20/37)		
Type of work				
Permanent	58.9% (33/56)	41.1% (23/56)	1.020	0.600
Causal	50.5%(48/95)	49.5%(47/95)		
Unemployed	54.4% (22/42)	47.6% (20/42)		
Marital status				
Married	57.1% (60/105)	43.9% (45/105)	15.789	0.001*
Divorced/Separated	23.5%(8/34)	76.5%(26/34)		
Single	66.0%(31/47)	34.0%(16/47)		
Widowed	57.1% (4/7)	42.9% (3/7)		
Education level				
Primary/no education	20.7% (6/29)	79.3% (23/29)	23.793	<0.001**
Secondary	51.9% (42/81)	48.1% (39/81)		
College	60.0% (39/65)	40.0% (26/65)		
University	88.9%(16/18)	11.1%(2/18)		

Table 1: IPV and Associated Socio-demographic Characteristics

Table 2 indicates the violence captured in this study were physical hurt (physical slaps, beatings, rape, use of knives, bottles, whips and other materials), Insults and talking down on, threats of physical harm, and screamed at and being cursed at by the partner. Physical violence was recorded as the commonest form of IPV among survivors. Slightly above two-thirds of respondents, 67.9% (131), had been hurt physically by their partners; 20.7% (40) indicated rarely, 25.4% (49) indicated sometimes, 9.3% (18) fairly often while 12.4% (24) frequently.

How often IPV physically occurs	Frequency	Percent
Never	62	32.1
Rarely	40	20.7
Sometimes	49	25.4
Fairly often	18	9.3
Frequently	24	12.4
Total	193	100.0

Table 2: Physically hurt by intimate partner

Verbal abuse as tabulated in table 3 was the most common form of IPV. As tabulated in table 3, majority of respondents, 81.3% (157), had been hurt verbally by their intimate partners; 26.4% (51) indicated rarely, 24.9% (48) sometimes, 15.0% (29) fairly often and 15.0% (29) frequently.

How often verbal violence occurs	Frequency	Percent
Never	36	18.7
Rarely	51	26.4
Sometimes	48	24.9
Fairly often	29	15.0
Frequently	29	15.0
Total	193	100.0

Table 3: Verbally hurt by intimate partner

Table 4 shows the tabulation of threats by intimate partner. It was represented as 18.1% (35) of them indicating rarely, 16.6% (32) sometimes, 11.4% (22) fairly common and 7.3% (14) frequently. Cumulatively 53.4% (103) were in relationship that had threat as a form of violence.

How often threatening occurs	Frequency	Percent
Never	90	46.6
Rarely	35	18.1
Sometimes	32	16.6
Fairly often	22	11.4
Frequently	14	7.3
Total	193	100.0

Table 4: Threats by intimate partner

Another common form of verbal violence that occurs among persons in a sexual relationship is screaming and cursing. As tabulated in table 5, about two thirds of respondents, 63.2 % (122) of them, had been screamed at or cursed by their intimate partners, 20.2% (39) indicated rarely, another 20.2% (39) sometimes, 12.4% (24) fairly common and 10.4% (20) frequently.

How often screaming or cursing occurs	Frequency	Percent
Never	71	36.8
Rarely	39	20.2
Sometimes	39	20.2
Fairly often	24	12.4
Frequently	20	10.4
Total	193	100.0

Table 5: verbally hurt by intimate partner

The HITS screen cumulatively describes any score above 10 points indicative of severe suffering from abuse. The HITS questionnaire results presented indicated the reality of violence meted on the female respondents within Kayole study site. The HITS screen results showed a mean score of 9.78 with a standard deviation of 4.4, which indicates that all females recruited had been exposed to IPV. Since the cut-off point for the HITS screen is 10 points and above, the prevalence of severe IPV in Kayole was calculated to be 46.6%

Emotional Symptoms

BDI was used to ascertain and further documented the emotional symptoms amongst the female survivors of IPV in Kayole. The BDI-II was categorized into different depressive symptoms such as mood, pessimistic, pleasure, self-esteem, suicide behavior, cognitive processing, and psychomotor, vegetative and somatic symptoms. Depressive symptoms depicted by respondents are tabulated in Table 6 according to BDI. Results revealed that the respondents had clinical significant mood symptoms (moderate to extremely severe). Some 63.2% (112) exhibited sadness, 67.9% (131) guilt, 52.3% (101) crying and 63.7% (123) were irritable. Further, more than two thirds of the respondents had lost interest in a number of activities. Some 69.9% (135) were dissatisfied in things they did or used to do, 63.7% (123) felt like they were getting punished, 64.8% (125) had lost interest in other people around them and 73.6% (142), had lost interest in sexual activities.

Vegetative depressive symptoms were very prevalent among the respondents. Some 58.5% (113) had sleep difficulties, 60.6% (117) had appetite problems while 25.9% (50) had lost weight. Suicidal behavior was also noted to be present; 19.2% (37) had thoughts of killing themselves, but would not carry the act out, 1.6% (3) wanted to kill themselves and 5.2% (10) would kill themselves if they had a chance.

Types of re-experiencing symptoms		Severity of the symptom occurrence				
		Not at all	Moderately	Quite a bit	Extremely	Total
Mood symptoms	Sadness	71 (36.8%)	85 (44.0%)	12 (6.2%)	25 (13.0%)	193 (100%)
	Guilty	62 (32.1%)	69 (35.8%)	41 (21.2%)	21 (10.9%)	193 (100%)
	Crying	92 (47.7%)	28 (14.5%)	9 (4.7%)	64 (33.2%)	193 (100%)
	Irritability	70 (36.3%)	68 (35.2%)	37 (19.2%)	18 (9.3)	193 (100%)

Types of re-experiencing symptoms		Severity of the symptom occurrence				
		Not at all	Moderately	Quite a bit	Extremely	Total
Loss of Pleasure Symptoms	Dissatisfied in things I do or I used to do	58 (30.1%)	101 (52.3%)	18 (9.3%)	18 (8.3%)	193 (100%)
	Feeling like I am getting punished	70 (36.3%)	44 (22.8%)	7 (3.6%)	72 (37.3%)	193 (100%)
	Loss of interest in other people	68 (35.2%)	73 (37.8%)	38 (19.7%)	14 (7.3%)	193 (100%)
	Loss of interest in sex	51 (26.4%)	76 (39.4%)	35 (18.1%)	31 (16.1%)	193 (100%)
Vegetative symptoms	Sleep difficulties	80 (41.5%)	60 (31.1%)	39 (20.2%)	14 (7.3%)	193 (100%)
	Appetite problems	76 (38.9%)	91 (47.2%)	17 (8.8%)	10 (5.2%)	193 (100%)
	Loss of Weight	119 (61.7%)	48 (24.9%)	16 (8.3%)	10 (5.2%)	193 (100%)
Suicide Behavior	Thoughts of wanting to kill myself	143 (74.1%)	37 (19.2%)	3 (1.6%)	10 (5.2%)	193 (100%)

Table 6: First three categories of depressive screening, vegetative and suicidal symptoms

Depressive symptoms were further delineated and tabulated in Table 7 according to severity of depressive symptoms. Over half of respondents had moderate to extreme pessimistic symptoms. The results showed that 50.8% (98) were discouraged about their future, while 56.5% (109) felt like they were failures in their life. A high proportion had low self-esteem with 59.1% (114) being disappointed in themselves while 60.1% (116) criticized themselves and 38.9% (75) had poor self-image. Psychomotor symptoms were present in 56.5% (109) who could not work physically like before, while 69.9% (135) felt exhausted most times. A further 55.4% (107) could not make decisions cognitively on their own effectively and lastly, 62.7% (121) had psychosomatic symptoms.

Types of re-experiencing symptoms		Severity of the symptom occurrence				
		Not at all	Moderately	Quite a bit	Extremely	Total
Pessimistic symptoms	Discouraged about future	95 (49.2%)	57 (29.5%)	16 (8.3%)	25 (13.0%)	193 (100%)
	Feeling a failure	84 (43.5%)	51 (26.4%)	43 (22.3%)	15 (7.8%)	193 (100%)
Loss of self esteem	Disappointed in myself	79 (40.9%)	92 (47.7%)	10 (5.2%)	12 (6.2%)	193 (100%)
	Self-criticism	77 (39.9%)	54 (28.0%)	30 (15.5%)	32 (16.6%)	193 (100%)
	Poor self- Image	118 (61.1%)	41 (21.1%)	31 (16.1%)	3 (1.6%)	193 (100%)
Psychomotor	Cannot work like before	84 (43.5%)	75 (38.9%)	30 (15.5%)	4 (2.1%)	193 (100%)
	Tiredness	58 (30.1%)	94 (48.7%)	32 (16.6%)	9 (4.7%)	193 (100%)
Cognitive Functioning	Difficulty in decision making	86 (44.6%)	34 (17.6%)	62 (32.1%)	11 (5.7%)	193 (100%)
Psycho-somatic	physical health problems	72 (37.3%)	83 (43.0%)	22 (11.4%)	16 (8.3%)	193 (100%)

Table 7: Other categories of depressive symptoms

Table 8 tabulates the severity of depressive disorder according symptoms severity among respondents as measured on the BDI-II. The level of depression was extremely high; 19.7% (38) had mild depressive symptoms, 21.8% (42) moderate and 22.8% (44) severe depressive symptoms that meet DSM-5 criterion for depressive disorder. This result cumulatively indicates that 64.2% (124) respondents had depressive symptoms that can meet the DSM-5 criterion for depressive disorder. This finding reveal that the level of depressive disorder was very high, with the mean score being 19.5 and a cutoff point of 14 for a respondent to meet the full criteria for DSM-5 depressive disorder. This mean score is much higher than the cutoff point with a standard deviation of 13.2. This result cumulatively indicates that 44.6% (86) respondents had moderate to severe symptoms in depressive disorder criteria that meet the DSM-5 criterion for clinical depressive disorder.

Depressive symptoms severity	Frequency	Percent
0-13- Normal	69	35.8
14-19 – Mild	38	19.7
20-28 – Moderate	42	21.8
29 and above – Severe	44	22.8
Total	193	100
Total	193	100.0

Table 8: Levels of depressive symptoms severity

Levels of Social Support

The SSQ measured the perception the respondents held, the assistance available or that had been received by the survivor and her degree of integration in a social network. The supportive health outcome measures were classified as emotional (e.g., nurturance), tangible (e.g., financial assistance), informational (e.g., advice), or companionship (e.g., sense of belonging) and intangible (e.g., personal advice). The SSQ classifies social health outcome measures: appraisal, tangible, self-esteem, and belonging to a social network. Table 9 presents frequency distribution of SSQ total scores and its classification. The mean, median and variance in the total score and sub-tests are skewed to the right. This indicates that the respondents had good support system.

Covariates	Social Support scores (N=193)	Appraisal Support scores (N=193)	Tangible Support scores (N=193)	Self-esteem Scores (N=193)	Belong to social Support network (N=193)
Mean	141.06	48.91	32.51	32.6580	43.40
Median	151.00	53.00	35.00	35.0000	48.00
Variance	514.975	64.268	29.355	27.768	52.940
Skewness	-2.356	-2.311	-2.304	-2.337	-2.275
Std. Error of Skewness	.175	.175	.175	.175	.175
Range	130	45	30	30.00	40
Minimum	26	9	6	6.00	8
Maximum	156	54	36	36.00	48

Table 9: supportive health outcomes

Table 10 tabulates association between respondents who met the criterion of depressive disorder and socio-demographic characteristics. A cross tabulation between highest education attained and socio-demographic characteristics indicated a statistically significant relationship; of the respondents who had higher scores on BDI that met DSM-5 criterion for depressive disorder, 62.1% (18) had no education or only primary education, this was statistically significant (p=0.002) compared to 5.6% (1) who had University education. This indicated lower education attainment is more likely to cause of respondent being abused by the intimate partner and develop depression as compared to higher education attainment, particularly university education.

Covariate	Depressive disorder		x ² statistics	p-value
	No (53.4%)103/193	Yes 46.6% (90/193)		
Age				
Between 18-27years	64.7% (22/34)	35.3% (12/34)	4.008	0.241
Between 28-37 years	50.7% (36/71)	49.3% (35/71)		
Between 38-47 years	49.0% (25/51)	51.0% (26/51)		
Between 48-60 years	64.9% (24/37)	35.1% (13/37)		
Type of work				
Permanent	66.1% (37/56)	33.9% (19/56)	3.905	0.142
Causal	56.2% (50/95)	43.8% (45/95)		
Unemployed	47.6% (20/42)	52.4% (22/42)		
Marital status				
Married	56.2% (59/105)	43.8% (46/105)	4.171	0.244
Divorced/Separated	41.2% (14/34)	58.8% (20/34)		
Single	63.8% (30/47)	36.2% (17/47)		
Widowed	57.1% (4/7)	42.9% (3/7)		

Covariate	Depressive disorder		x ² statistics	p-value
	No (53.4%)103/193	Yes 46.6% (90/193)		
Education level				
Primary/no education	37.9% (11/29)	62.1% (18/29)	16.865	0.002**
Secondary	53.1% (43/81)	46.9% (38/81)		
College	55.4% (36/65)	44.6% (29/65)		
University	94.4% (17/18)	5.6% (1/18)		

Table 10: Depressive disorder and Associated Socio-demographic Characteristics

Social Support and Social-Demographic Variables

The relationship between levels of social support and socio-demographic data is presented in table 11. Respondents who had attained high education (secondary to university levels) had good social support. High Educational attainment was positively correlated with high social support scores: total support scores at $r = 0.200$, this is a significant association, $p = 0.005$; belonging support scores at $r = 0.205$, $p = 0.004$; self-esteem scores at $r = 0.176$, $p = 0.014$; tangible support scores $r = 0.195$, $p = 0.007$ and appraisal support scores $r = 0.180$, $p = 0.012$.

Employment status was negatively correlated with age, the older the respondent the more likelihood of not being employed $r = -0.210$ indicating a significant association of $p = 0.003$. Similarly, respondents who had high educational attainment (secondary to university levels) were employed. The respondent who had no education, were more likely not to be employed $r = -0.162$ indicating a significant association of $p = 0.025$. Further, there were significantly strong positive associations between forms of social support: appraisal support was positively associated with tangible support $r = 0.958$, $p < 0.001$; appraisal support was positively associated with self-esteem support $r = 0.948$, $p < 0.001$; appraisal support was also positively associated with belonging support $r = 0.964$, $p < 0.001$. Tangible support was positively associated with self-esteem support $r = 0.926$, $p < 0.001$; tangible support was also positively associated with belonging support $r = 0.941$, $p < 0.001$. Lastly belonging support was positively associated with self-esteem support $r = 0.942$, $p < 0.001$.

These findings indicate that different forms of social support for respondents augment each other and therefore the highly significant strong association of near 1 (> 0.9). Also high educational attainment and employment status were associated with good social support.

Covariates		Highest Education level attained (193)	MMarital status (193)	Type of employment (193)	AAge in years (193)	Appraisal Support (193)	Tangible Support (193)	Self-esteem Support (193)	Belong Support (193)	Social Support score (193)
	N=193									
Highest Education level attained	R	1								
	p-value									
Marital status	R	.095	1							
	p-value	.89								
Type of employment	R	.162*	.001	1						
	p-value	.025	.88							
Age in years	R	.079	.35	.210**	1					
	p-value	.272	.61	.003						
Appraisal Support	R	.180*	.54	-.089	.70	1				
	p-value	.012	.53	.219	.30					
Tangible Support	R	.195**	.37	-.099	.42	.958**	1			
	p-value	.007	.10	.173	.62	.000				
Self-esteem Support	R	.176*	.11	-.071	.21	.948**	.926**	1		
	p-value	.014	.83	.329	.69	.000	.000			
Belong Support	R	.205**	.57	-.088	.66	.964**	.941**	.942**	1	
	p-value	.004	.34	.224	.64	.000	.000	.000		
Total Social Support	R	.200**	.31	-.089	.51	.984**	.974**	.967**	.980**	1
	p-value	.005	.68	.216	.81	<0.001	<0.001	<0.001	<0.001	

r: Pearson correlation

P-value: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed).

Table 11: Correlation between Socio-demographic Characteristics and Social Support

Relationship between levels of social support, HITS and BDI scores

The relationship between levels of social support with HITS and BDI scores are presented in table 12. The Pearson coefficient *r* determines the degree (strength) of the relationship and its value ranges from -1 to+1; a value of 0 implies no relationship, value of 1 is perfect positive correlation and -1 is a perfect inverse correlation. Values between: 0.5 and above indicate strong correlation, 0.3 and 0.5 moderate correlation and 0.1-0.3 weak correlation. Total scores of BDI scale are negatively correlated with: appraisal scores *r* = - .206, *p*=0.004, tangible support score, *r* = -.204 and *p*=0.005, self-esteem scores *r* = -.200 and *p*=0.011 and full social support score, *r* = -.209 and *p*=0.003. Total BDI scores were positively correlated with PTSD scores at *r*=0.642, this is a significant association with *p*<0.001. Similarly, the HITS scores that assessed IPV are positively correlated with BDI and PCL-5 scores (*r*=0.535 and *r*=0.468) indicating a significant association of *p*<0.001 also *p*<0.001 respectively. These findings indicate that increase in BDI scores is indicative increasing severity in depressive disorders are associated with poorer social support system. Further BDI and HITS scores are positively correlated indicating that increase in HITS scores are significantly related to increase in depressive symptoms. Therefore, high scores on HITS indicates severe IPV occurrences which cause the development of depressive disorders.

		Appraisal Support scores	Tangible Support scores	Self-esteem scores	Belong Scores	Social Support scores	BDI Scores	HITs scores
BDI Scores	R	-.206**	-.204**	-.200**	-.183*	-.209**	1	
	p-value	.004	.004	.005	.011	.003		
Total HITS scores	R	-.066	-.084	-.044	-.050	-.065	.535**	1
	p-value	.361	.247	.544	.487	.368	<0.001	

r: Pearson correlation

P-value: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed).

Table 12: Correlation between Social Support, HITS and BDI Scores

Table 13 presents the association between HITS score that indicate severe IPV problem and depressive disorder according to DSM-5 criterion. A cross tabulation between the HITS score and DSM-5 diagnosis of clinical depressive disorder revealed that IPV had a statistical significant difference with regard to depressive disorder; where the proportion of respondents with high score on HITS (above 9) indicating IPV 58/90 (64.4%) had depressive disorder compared to lower proportion of respondents with a lower score on the HITS indicating no IPV 28/103 (27.2%) who had depressive disorder, *p*<0.001. This indicated that respondents who had severe IPV relationships were more likely to develop depressive disorder.

Covariate	Depressive Disorder		χ^2 statistics	p-value
	No (n=79)	Yes (n=114)		
Intimate Partner Violence				
No IPV	72.8% (75/103)	27.2% (28/103)	25.505	<0.001
Yes presence of IPV	35.6% (32/90)	64.4% (58/90)		

Table 13: IPV and Associated Depressive Disorder

Discussion

Intimate partner violence (IPV) has a number of negative consequences associated with it. Understanding the survivors' experiences, the different psychological outcomes and identifying ways of minimizing the negative outcome was embarked upon in this study. Whereas the findings of this study affirm other studies made earlier, there were some significant findings which have enriched the study. Social Support in general was positively associated with appraisal, tangible, belonging and self-esteem support. Those with high educational attainment and employment status were associated with good social support. The highest educational attainment was positively correlated with: total support scores, self-esteem scores, tangible support scores and appraisal support scores.

It is evident from this study that the level education attained as socio-demographic characteristics is a statistically significant relationship to the development of depression. The respondents with higher scores on the BDI-II that met DSM-5 criterion for depressive disorder had no education or had primary education, as compared to those with University education [35]. This indicates that lower education attainment is more likely the cause some of respondent being abused by the intimate partner. The development of depression in this study can be attributed to emotional reaction to the abusive nature of the survivor's intimate relations, occurring more to those with poor educational attainment as compared to higher education attainment, particularly university education. This can be postulated to mean therefore that poor education attainment can be a predictor for severe emotional reaction as the survivors have few opportunities for alternative source of income, social support and other community supportive structures.

This result also reveal that respondents with high scores on BDI indicating depressive symptoms had poorer social support systems and a high score of HITS scale. The poorer the Social Support system, the higher the indication of severity in depressive disorders and associated with increase in HITS scores. Therefore, high scores on HITS indicate severe IPV occurrence leading to the development of depressive disorder. This finding support the accession made by Karakurt, *et al.* (2014) that one of the major

negative effect of IPV is an increased likelihood of clinical depression [12]. This is affirmed by the depressive symptoms exhibited by the respondents. The emotional symptoms were also clinically significant since they ranged from moderate to extremely severe. Further, more than two thirds had lost interest in a number of activities including interest in sexual activities and others have gotten involve in risky behaviors such as extra-marital sex. They were also dissatisfied in things they used to love like taking care of the family, praying and going out to meet friends and felt like being punished when they do them.

The vegetative depressive symptoms were highly significant among the respondents where they had sleep difficulties, problem with appetite and loss of weight. Suicidal behavior was also noted to be highly significant. This confirms WHO (2012) multi-country study reports which indicated that attempted suicide is significantly higher among those who go through IPV [13]. In this study, some of the respondents had thoughts of killing themselves but would not act on it; some wanted to kill themselves but could not get the chance to do it. Jordan et al. (2001) strengthens this point by alleging that IPV is a predictor of suicidal ideations parasuicide self-harm behaviours [37]. Over half of the respondents had moderate to extreme pessimistic symptoms of depression, which exhibited itself in the respondents being discouraged about their future, feeling of being a failure in life, disappointed in themselves, having poor self-image leading to low self-esteem and being disappointed in themselves. Psychomotor symptoms of depression were also exhibited and some could not do physical work as they used to, most of them felt exhausted most of the time and more than half had cognitive issues. They could not make decisions on their own effectively and these study findings affirms the study by Kilpatrick, *et al.* [38,39].

There was a statistical significant difference between HITS score that indicate severe IPV problem and depressive disorder. The study finding show those respondents who had severe IPV relationships had depressive disorder. In other words, there were those who had lower IPV relationship but had depression. This points to the fact that severe IPV relationship could have been more likely the cause of the developed depression. This assertion is affirmed by Grav, Hellzen, Romild and Stordal (2012) who investigated the association between social support and depression of a general population in Norway and affirmed that there is higher probability of experiencing depression where there is lack of social support [40]. As affirmed by Paykel (1994) absence of social support appears to be associated with onset and relapse of depression [41].

Conclusions and Clinical Implications

BDI and HITS scores in the current study are positively correlated indicating that increase in HITS (IPV) score is significantly related to increase in depressive symptoms. Therefore, high score on HITS scale indicate severe IPV occurrence which cause the development of depressive disorder. Those with higher score on BDI and HITS have poorer social support system. It can be said that in order to improve the depressive state, one must improve the social support system. This study also indicates that there is a significant strong positive association among the different forms of social support. Treatment consideration needs to be evaluated according to different forms of social support system of the client. The current study adds to social evidence within Kenya that social support contributes effectively in improving the mental as well as the physical effect of IPV. Poor social support implies high scores in IPV and BDI.

Intimate partner violence (IPV) is a major public health problem associated with adverse health consequences for survivors including depressive disorder and these are prevalent in the Kayole society. The study revealed the forms of IPV which included physical hurt, insults threats and screaming. The study also established an entry mode which was through the HITS screen. With the HITS screen it was realized that all the respondents were going through different forms of violence. It was revealed that over half of the respondents had moderate to extreme score on the BDI scale which meets the DSM-5 criterion for moderate to severe clinical depression [36].

Further BDI, and HITS scores were positively correlated indicating that increase in HITS scores were significantly related to increase in depressive symptoms. The respondents are able to cope with these severe incidents of IPV due to good social support systems. The frequency distribution of SSQ total scores and its classification; appraisal, tangible, self-esteem, and belonging to a social network indicated in the mean, median and variance of the total score and sub-tests were skewed to the right, indicating the respondents have good support system. The study also revealed other coping mechanisms that include; making fun of the violent relationships, talking about it among the lady folks, care and support from the communities, and believing in God.

The findings of this study contribute important new knowledge about the role and effect of social support on the survivors of IPV. The findings reinforce the argument that greater attention be paid on violence in their relationship of female clients seeking psychological help. Importantly, our study highlights the need for policy makers to address this social issue. Though depression is one of the negative outcomes of IPV, females subjected to IPV tend to have other psychological and behavioral tendencies which impacts on those who are linked to her, like her children.

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Availability of Data and Materials

The dataset analyzed during the current study is available with the First Author, the Corresponding Author.

Authors' Contributions

Anthony BK Amissah designed and performed the research, collected and interpreted the data, and critically revised the manuscript for important intellectual content. Michael Kihara and Oscar Githua assisted as supervisors for the research work. Finally, Anthony BK Amissah and Lincoln Khasakhala analyzed and interpreted the data, and wrote the manuscript. All authors have approved the final manuscript.

Ethics Approval and Consent to Participate

The USIU-Africa in Kenya IRB approved the research to be undertaken and the all respondents were provided written informed consent.

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