

ORIGINAL ARTICLE

Depression and intimate partner violence among urban Kenyan caregivers of children with disabilities

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Accessible summary**What is known on the subject?:**

- Caregivers of children with disabilities are at increased risk of experiencing interpersonal violence and its consequences; however, there is limited research targeting this population.
- This problem is understudied in Sub-Saharan Africa.

What this paper adds to existing knowledge?:

- Study examines intimate partner violence and depression among men and women caregivers of children with disabilities.
- Study findings showed that while a higher proportion of women caregivers of children with disabilities than men reported experiencing intimate partner violence and were at increased risk depression, the differences were not statistically significant.
- Participants reporting any form of violence (i.e. psychological aggression or physical assault) were at increased risk for depression, with those experiencing a combination of physical assault and psychological aggression having the highest risk for depression.

What are the implications for practice?:

- Professionals working families of individuals with disabilities should be cognizant of the added stress and comorbid factors associated with caring for a child with a disability.
- Future research should examine whether there is a causal relationship between intimate partner violence and depression among caregivers of children with disabilities and compare this relationship with the general population.

Abstract

Introduction: Mental health correlates of intimate partner violence (IPV) victimization are well documented. However, caregivers of children with disabilities (CCWDs) are underrepresented in empirical investigations and may have an increased risk of experiencing IPV and its consequences. This is particularly important in Sub-Saharan Africa where this problem is understudied.

Method: The present study estimated the prevalence of IPV victimization and examined the association between IPV and depression in a sample of CCWDs living in Nairobi, Kenya.

Results: Nearly half (49.8%) of the participants experienced some form of IPV and more than half (51.8%) were at risk of depression. Participants reporting psychological and physical violence were 1.76 and 4.81 times more likely to be at risk for depression, respectively. Those experiencing a combination of physical and psychological violence were 4.85 times more likely to be at risk for depression.

Discussion: Both men and women CCWDs are at an increased risk for IPV and depression. Social-cultural factors are also important in the prediction of depression risk and should be taken into account when working with CCWDs.

Implications: Mental health professionals should be cognizant of the added stress of being a CCWD, and the link between CCWDs and comorbid mental health outcomes.

KEYWORDS

caregivers of children with disability, depression, intimate partner violence, Kenya

1 | INTRODUCTION

Intimate partner violence (IPV), defined as a pattern of abusive behaviours by one or both partners in an intimate relationship, is a major public health concern. Worldwide, it is estimated that 30% of women who have been in an intimate relationship have experienced physical and/or sexual violence (World Health Organization, 2013). However, data on the prevalence of IPV against men are limited. It is argued that IPV against men often goes unrecognized because men are less likely than women to report such incidents for fear of embarrassment, ridicule and lack of available support services (Barber, 2008). Thus, the implications of gender must be considered when investigating IPV.

In Kenya, IPV rates are high compared with global averages. The latest data show that approximately 47.1% and 23.4% of ever-married Kenyan women and men, respectively, had experienced IPV at some point in their lives (Kenya National Bureau of Statistics (KNBS) and ICF Macro, 2015), compared with 35.6% of women and 28.5% of men in the United States (Breiding, Chen, & Black, 2014) and 11% of women and 7.8% of men in Spain (Ruiz-Pérez, Rodríguez-Barranco, Cervilla, & Ricci-Cabello, 2018). Gender inequalities and conformance to gender roles have been linked to IPV in Kenya (Lawoko, Dalal, Jiayou, & Jansson, 2007; Mugoya, Witte, & Ernst, 2015). Kiriti and Tisdell (2003) note that Kenyan men usually hold higher social, economic and political power compared with Kenyan women. This inequality makes women socially and economically dependent on men, placing them at risk of IPV victimization (Gibbs, Willan, Misselhorn, & Mangoma, 2012). Indeed, in some communities in Kenya, women who do not fulfil their "wife/mother duties" may expect to be "punished" by their husbands (Hatcher et al., 2013). This can result in women being more accepting when IPV occurs in this cultural context when situations such as a mother's alleged neglect of her children (Mugoya et al., 2015).

The link between IPV and mental health outcomes is important. IPV is consistently associated with adverse physical and psychological outcomes (Coker et al., 2002; Devries et al., 2013). Female victims

of IPV have been shown to be at an increased risk for eating disorders (Ackard & Neumark-Sztainer, 2002), depression (Devries et al., 2013; Mugoya et al., 2017), post-traumatic stress disorder (Scott & Babcock, 2010) and suicidal ideation (Coker et al., 2002; Devries et al., 2013). While few studies have included men, available data indicate that IPV among men is associated with depression, binge-eating and suicidal ideation (Ackard, Eisenberg, & Neumark-Sztainer, 2007).

1.1 | Challenges associated with caring for a child with a disability

Having and raising children introduce new challenges into the family system, which may lead to an increased risk for IPV (Makayoto, Omolo, Kamweya, Harder, & Mutai, 2013; Solanke & Ilevbare, 2017) and mental health problems, such as depression. Schulz, Cowan, and Cowan (2006) note that even in the healthiest of relationships, it is normative for couples to experience a decrease in relationship satisfaction with the birth of a child, which can lead to depressive symptoms. When family systems include a child with a disability, the stress experienced by family members may be exacerbated. For example, studies show that caregivers of children with disabilities (CCWDs) report higher levels of stress when compared to those caring for children without disabilities (Olsson & Hwang, 2001; Warfield, Krauss, Hauser-Cram, Upshur, & Shonkoff, 1999). The reasons for the increased stress are varied and may include personal and financial consequences (Parish, Shattuck, & Rose, 2009; Stiell, Shipton, & Yeandle, 2006). Shandra, Hogan, and Spearin (2008) note that when compared to parents of a child without disability, CCWDs will likely encounter more financial burdens related to supplementary health and primary care as well as long-term medical care for the child's unique needs. Other researchers suggest that CCWDs are more likely to experience unsupportive workplace conditions such as limited flexibility to attend hospital or other appointments with their child and limited employer understanding of their daily caregiving responsibilities (Crettenden, Wright, & Skinner, 2014; George, Vickers, Wilkes, & Barton, 2008).

Taken together, these stressors make CCWDs more susceptible to poor mental health outcomes, such as being at an increased risk for depressive symptoms (Halpern, Spriggs, Martin, & Kupper, 2009). Olsson and Hwang (2001) conducted a case-control study to examine the prevalence and severity of parental depression in families of children with intellectual disabilities and found that compared with control families, mothers of children with disabilities had a markedly increased risk of suffering from psychological distress and depression. In low-income countries, including Kenya, CCWDs face the additional burden of lack of access to healthcare and assistive equipment, which has been associated with poor health outcomes (Geere et al., 2013; Hamzat & Mordi, 2007).

As previously discussed, CCWDs are at an increased risk for both IPV and depressive symptoms. Studies involving individuals with disabilities have found elevated rates of IPV and related mental health correlates including depressive symptoms (Chan, Emery, & Ip, 2016; Erosa, Elliot, Berry, & Grant, 2010). Chan et al. (2016) surveyed school-aged children with disabilities in Hong Kong and found approximately 12% to 46% had witnessed IPV between parents. Erosa et al. (2010) assessed the prevalence of abuse and its association with mental health outcomes in 147 community-residing caregivers (129 women, 18 men) of adults with disabilities (66 men, 81 women) in the United States. The researchers found that over half of the caregivers reported being victimized by some form of verbal or physical abuse in the previous 12 months by a family member. Additionally, when compared to those who did not report abuse, caregivers reporting abuse were significantly more likely to have higher levels of depression. There has been no research on the association between IPV and depressive symptoms among CCWDs in Kenya or any other countries within the Sub-Saharan Africa region.

Demographic and socio-cultural factors may be associated with challenges and consequences related to caring for a child with a disability, particularly in Sub-Saharan African communities. Marsh, Kamuya, and Molyneux (2011) conducted a study in the coastal region of Kenya and found that many participants indicated that there was "a tendency for mothers to be held responsible, and for fathers to resist accepting responsibility for negative events in their children, where lapses in the mother's care were not identified or suspected" (p.350). Furthermore, in most Kenyan communities, childbearing is viewed as the main goal of marriage (Onyishi, Sorokowski, Sorokowska, & Pipitone, 2012) and having a child is seen as beneficial to the family by providing parents with security during old age. Accordingly, having a child with a disability could be viewed as threatening this expectation, which may exacerbate the risk for IPV. Studies in Uganda and Kenya indicate that some individuals still view a disability as a curse, punishment from God for wrongdoing or work of evil spirits (El Sharkawy, Newton, & Hartley, 2006; Gona, Hartley, & Newton, 2006). Thus, having a child with a disability can lead to fear of isolation and/or discrimination (Munyi, 2012), which may exacerbate the risk for negative mental health outcomes including depression. In fact, Mbugua, Kuria, and Ndetei (2011) found that 79% of CCWDs residing in rural Kenya met criteria for depression.

1.2 | Study aim

Despite the likelihood that the prevalence of IPV and associated mental health correlates could be higher among CCWDs, there is a paucity of research evidenced in the literature. Of the limited number of studies, most focus on Western countries (Erosa et al., 2010), but there may be unique challenges for CCWDs in non-Western settings (e.g., Chan et al., 2016) that need to be explored further. There are no studies that have examined the association between IPV and depression among CCWDs in Kenya or Sub-Saharan Africa. The present study sought to begin to fill this gap by examining the prevalence of IPV victimization and associated mental health correlates in a sample of men and women CCWDs residing in Nairobi, Kenya.

2 | METHOD

2.1 | Study design and participant recruitment

The current study utilized a cross-sectional study design. Data were collected from CCWDs residing in Nairobi, Kenya. The study's Principal Investigator (PI) collaborated with a local non-government organization (NGO) offering services for children with disabilities. The PI and Director of the NGO approached organizations offering services to children with disabilities, explained the purpose of the study, and requested for the study to be advertised in their facility. Interested participants contacted the PI who scheduled the time and place to administer the surveys. A majority of the surveys were conducted on the NGOs premises, although some participants preferred to complete the surveys in their homes. The PI with the help of the NGO Director identified four individuals with research experience to serve as the current study's research assistants. The research assistants underwent a 2-day training session led by the PI. Topics covered during the training included the purpose of the study, ethical issues in research (including how to consent potential study participants), the data collection measures and the importance of ensuring accuracy in data collection process. Data were thus collected by the PI and four research assistants.

Interested participants provided written informed consent in the language of their choice (i.e., English or Swahili) after which they were screened to ensure they met the study inclusion criteria: (a) being over the age of 18 years, (b) able to understand English or Swahili, and (c) self-identifying as the primary caregiver of a child—19 years or younger—with a disability. Willing and eligible participants were then administered either the English or Swahili version of the questionnaires depending on their preference. Data were collected from 288 Kenyan adults. After all data cleaning procedures were completed, including removal of participants caring for children older than 19, those not reporting age of child, or not responding to the depression questionnaire, the final sample size was 247. The mean age of the participants was 34.5 ($SD = 8$) and a majority were women (72%; $n = 178$).

The study was approved by the Institutional Review Boards of the University of Alabama at Tuscaloosa and the National

Commission for Science, Technology, and Innovation in Kenya. The questionnaires utilized in the current study underwent double translation (i.e. forward and backward) and cross-cultural adaptation as recommended by published guidelines (Gonzalez-Calvo, Gonzalez, & Lorig, 1997; Morris, Grimmer-Somers, Louw, & Sullivan, 2012; Mousavi, Parnianpour, Mehdian, Montazeri, & Mobini, 2006; Sireci & Berberoglu, 2000). The translation and adaptation procedures are available elsewhere (see, Mugoya, 2018).

2.2 | Variables

The dependent variable, depressive symptoms, was measured by the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item measure where participants indicate how often, over the past week, they experienced symptoms associated with depression, such as restless sleep, poor appetite and feeling lonely. Participants rate the extent to which they have experienced each of these symptoms none of the time (=0), rarely (=1), some or little of the time (=2), or most or all of the time (=3). For this scale, total scores range from 0 to 60, with higher scores indicating a greater level of depressive symptoms. The CES-D has been validated in the general population and clinical patient samples (e.g. Chung et al., 2015; Foley, Reed, Mutran, & DeVellis, 2002) and has been utilized in ascertaining depressive symptoms among individuals reporting both current and lifetime rates of IPV (Bonomi et al., 2006; Zlotnick, Johnson, & Kohn, 2006). Internal consistency for the scale in general and clinical populations is sound ($\alpha = .85$ and $.90$, respectively; see Radloff, 1977). The CES-D has previously been utilized in African countries including Kenya (Myer et al., 2008; Othieno, Okoth, Peltzer, Pengpid, & Malla, 2014) and has been found to be valid. The internal consistency of the CES-D for the present study was acceptable ($\alpha = .86$). A cut-off score of 16 or greater indicates risk for clinical depression (Vilagut, Forero, Barbaglia, & Alonso, 2016). Depressive symptoms in the current study were dichotomized into less than 16 (=0) and equal to or greater than 16 (=1) to distinguish those at risk for clinical depression.

The independent variable, IPV, was measured using the following four items "Has your Husband, Wife, Boyfriend or Girlfriend ever: (a) physically hurt you, (b) insulted or talked down at you, (c) threatened to harm you and (d) screamed or cursed you". The response options were "Yes" or "No". Based on these questions, three IPV subscales were created: (i) physical assault subscale—respondents providing "Yes" to question (a) were coded as 1 and those providing a "No" response coded as 0; (ii) psychological aggression subscale—respondents providing a "Yes" to any of the psychological aggression items (i.e. items b–d) were coded as 1 and 0 to respondents providing a "No" to all the items. It is noteworthy that these three items (i.e. b–d) correspond to the items found in the psychological aggression subscale of the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Further, these three questions have previously been utilized to assess emotional violence in Kenya Demographic Health Survey (Kenya National Bureau of Statistics (KNBS) and ICF

Macro, 2009; Kenya National Bureau of Statistics (KNBS) and ICF Macro, 2015); and (iii) composite IPV severity scale. Respondents providing a "No" response to all the items (i.e. items a–d) were coded as 0 and named No IPV. Those reporting either physical assault only or psychological aggression only were coded as 1 and named Single IPV, while those reporting both physical assault and psychological aggression were coded as two and named Multiple IPV. Thus, the composite IPV severity scale is coded and named as 0- No IPV, 1-Single IPV and 2-Multiple IPV.

Previous research indicates that various demographic and socio-economic factors influence the relationship between IPV victimization and depressive symptoms (e.g., Chuang et al., 2012; González-Guarda, Peragallo, Vasquez, Urrutia, & Mitrani, 2009). Thus, additional variables were included in the analyses to control for possible confounding. These variables were categorized and coded as follows: (a) Age in years; (b) Gender: male (=0), female (=1); (c) Marital status: single/never married (=0), married/living with partner as married (=1), previously married (=2); (d) number of children raising: one (=0), two (=1), three and above (=2); (e) type of child's disability: physical impairment (=0), visual or hearing impairment (=1), developmental disability (=2), other disability (=3); (e) Relationship with child with a disability: own child (=0), close relative (included here were brother/sister, nephew/niece and grandchild = 1), other (=2); (f) Education level: less than primary (=0), complete primary (=1), incomplete secondary (=2), complete secondary (=3), college or higher (=3); (g) Employment: unemployed (=0) and employed (=1) and (h) Monthly income in Kenya shillings (Kshs): Less than Kshs. 5,000 (=0), Kshs. 5,000–9,999 (=1), Kshs. 10,000–49,999 (=2), and Kshs. 50,000 and above (=3). (Note. 1 US Dollar is approximately equal to 100 Kenyan Shillings).

2.3 | Statistical analysis

Descriptive analyses were first conducted. Bivariate analyses were then conducted to examine the association between participant characteristics and meeting the CES-D criteria for depression. Specifically, *t* tests were utilized to assess the association between continuous variables, while chi-square tests were utilized to examine the association between categorical variables. Chi-square tests were also conducted to ascertain whether there were differences between men and women on the various forms of IPV and meeting CES-D criteria for depression. Finally, logistic regression analyses were conducted to examine the associations between meeting the CES-D criteria for depression and various forms of IPV (i.e. psychological aggression, physical assault and composite interpersonal violence severity) while controlling for possible confounding variables.

To ascertain the number of covariates to include in the final multiple logistic regression model, univariate logistic regression analyses were conducted to examine the association between each of the covariates and meeting the CES-D criteria for depression. Three separate regression models were then run to examine the effect of the various forms of interpersonal violence (i.e. psychological

aggression, physical assault and composite interpersonal violence severity) on depressive symptoms. All independent variables were entered simultaneously into the regression models. Statistical analyses were conducted using SPSS version 24.

3 | RESULTS

The mean age of the participants was 34.5 years ($SD = 8.0$). Nearly three quarters of the participants were female (72.1%) and were married or living with a partner (72.9%). Over half were primary caregivers to their own child with a disability (61.9%), raising three or more children (56.7%) and were employed (55.1%). Nearly half of the participants had monthly income of less than Kshs 5,000 (equivalent to US\$50; 49.4%) and reported experiencing some form of IPV (49.8%). Over a third of the children had developmental disabilities 35.6% (see Table 1).

Results of the bivariate analysis (Table 1) indicate that participants meeting the CES-D criteria were older ($M = 35.3$, $SD = 8.5$) than those not meeting the CES-D criteria for depression ($M = 33.6$, $SD = 7.3$); however, the difference was not statistically significant, $t(240) = -1.712$, $p = .09$. Further there were statistically significant differences (at $p < .05$) between meeting the CES-D criteria and number of children the participant was raising ($\chi^2 [2, N = 247] = 7.314$, $p = .03$), the participant's education level ($\chi^2 [3, N = 247] = 26.76$, $p < .01$), the average monthly income the participant was making ($\chi^2 [3, N = 247] = 9.51$, $p = .02$) and experiencing any form of IPV measured in the current study (see Table 1). A post hoc analysis of the significant chi-square results was conducted utilizing the standardized residual method (Beasley & Schumacker, 1995). Results indicated that participants with three or more children were more likely to meet the CES-D criteria ($p = .018$). Similarly, those with less than primary education ($p < .001$) and those earning less than Kshs. 5,000 ($p = .012$) were more likely to meet the CES-D criteria. In terms of reported violence, participants reporting physical violence ($p < .001$), psychological violence ($p = .02$) and a combination of physical and psychological violence ($p < .001$), more likely to meet the CES-D criteria for depression.

A higher proportion of women than men reported all forms of IPV and met the CES-D criteria for depression; however, the differences were not statistically significant ($p > .05$; see Table 2). For instance, 42.1% of women compared with 36.2% of men reported that they had been insulted or talked down upon. However, the differences were not statistically significant ($\chi^2 [1, N = 247] = 0.72$, $p = .40$). Similarly, 53.4% of women compared with 47.8% of men met the CES-D criteria for depression. However, the differences were statistically insignificant ($\chi^2 [1, N = 247] = 0.61$, $p = .43$).

Univariate logistic regressions whereby the univariate associations between meeting the CES-D criteria for depression (outcome variable) and each of the predictor variables were then conducted. Results indicated that all the main predictor variables—that is psychological aggression ($p = .03$), physical assault ($p < .01$) and composite IPV severity ($p < .01$) were significantly associated

with meeting the CES-D criteria for depression (no table provided). Among the covariates evaluated, number of children the participant was raising ($p < .01$), education level ($p < .01$), employment status ($p < .04$) and monthly income ($p < .01$) were all significantly associated with meeting the CES-D criteria for depression. Conversely, gender, age, marital status and type of child's disability were not significantly associated with meeting the CES-D criteria for depression. As such, these covariates were eliminated from the final multiple logistic regression models with the exception of gender. Gender was still included in the final model because it was one of the main covariates of interest. The final multiple logistic regression analyses included IPV (i.e. psychological aggression, physical assault and composite IPV severity) as the main predictor variables and gender, number of children the participant was raising, education level, employment status and monthly income as covariates.

Results of the three multiple logistic regression models are presented in Table 3. A review the goodness-of-fit statistics utilizing the Hosmer-Lemeshow test indicated that the p-values in the three models were insignificant (i.e., $p > .05$), suggesting that the models fit to the data well. Nagelkerke's R^2 indicates that approximately 26% of variation in outcome (i.e. depression) was explained in model 1. Similarly, 31% and 32% variation in the outcome is explained by the model 2 and 3, respectively.

Each regression model included the aforementioned covariates and one of the following variables: psychological aggression (model 1), physical assault (model 2) and composite IPV severity (model 3). Meeting the CES-D criteria for depression was the outcome variable in all the models. For model 1, the likelihood of meeting the CES-D criteria for depression was 1.76 higher among individuals reporting psychological IPV victimization compared with those who did not experience this form of IPV (95% CI [1.00–3.27]). Further, taking care of three or more children and being employed were each associated with increased likelihood of meeting the CES-D criteria for depression. Conversely, having a primary education or higher, and earning Kenya Shillings (Kshs.) 10,000 (equivalent to \$100) or more per month were each associated with decreased likelihood of meeting the CES-D criteria for depression.

For model 2, the likelihood of meeting the CES-D criteria for depression was 4.41 higher among individuals reporting physical IPV victimization compared with those who did not experience this form of IPV (95% CI [2.02–9.61]). Similar to results from model 1, those taking care of three or more children and participants who were employed had increased odds of meeting the CES-D criteria for depression, and participants with a primary education or higher and those earning Kenya Shillings (Kshs.) 50,000 (equivalent to \$500) or more per month had decreased odds of meeting the CES-D criteria for depression.

Finally, for model 3, participants who experienced a combination of both physical assault and psychological aggression (composite IPV severity) had the highest odds of meeting the CES-D criteria for depression (OR 4.85; 95% CI [1.98–11.90]). Further, the same

TABLE 1 Descriptive characteristics and the relationship between meeting the CES-D criteria for depression and predictor variables

Characteristic	Descriptives ^a		Bivariate analyses ^b		
			Met CES-D criteria for depression		
	N	%	Yes (N = 128)	No (N = 119)	p
Age—Mean (SD)	34.5 (8)		35.3 (8.5)	33.6 (7.3)	.09
Marital status					
Single	42	17.0	45.2	54.8	
Married/living as married	180	72.9	51.7	48.3	.53
Formerly married	22	8.9	63.6	36.4	
Missing	3	1.2	66.7	33.3	
Number of children raising					
One	49	19.8	36.7	63.3	.03
Two	58	23.5	48.3	51.7	
Three and above	140	56.7	58.6	41.4	
Type of child's disability					
Physical impairment	35	14.2	60.0	40.0	.47
Visual/hearing impairment	55	22.3	43.6	56.4	
Developmental disability	88	35.6	53.4	46.6	
Other	69	27.9	52.2	47.8	
Relationship to child with disability					
Own child	153	61.9	50.3	49.7	.263
Close relative	51	20.7	47.1	52.9	
Other	43	17.4	62.8	37.2	
Education level					
Less than primary	42	17.0	87.8	12.2	<.01
Primary	97	39.3	45.4	54.6	
Secondary	61	24.7	47.5	52.5	
College or higher	47	19.0	38.3	61.7	
Characteristic	Total		Met CES-D criteria for depression		
	N	%	Yes (N = 128)	No (N = 119)	p
Employment					
Employed	136	55.1	52.9	47.1	.88
Unemployed	111	44.9	50.5	49.5	
Income					
<5,000	128	51.8	59.4	40.6	.02
5,000–9,999	60	24.3	51.7	48.3	
10,000–49,999	45	18.2	37.8	62.2	
50,000 and above	14	5.7	28.6	71.4	
Psychological aggression					
Yes	118	47.8	40.7	59.3	.02
No	129	52.2	55.0	45.0	
Physical assault					
Yes	63	25.5	74.6	25.4	<.01
No	184	74.5	44.0	56.0	
Combined IPV					
None	124	50.2	43.6	56.4	<.01
Single IPV	65	26.3	47.7	52.3	
Combined IPV	58	23.5	74.1	25.9	

Abbreviations: CES-D, Center for Epidemiological Studies Depression Scale; SD, standard deviation.

^aDescriptives—all variables, except Age, were categorical; thus, we report frequency and percentages. For age, we report the mean and standard deviation.

^bBivariate analysis—all variables, except age, were categorical; thus, we report chi-square tests. For age, we conducted a *t* test.

TABLE 2 Relationship between interpersonal violence, depression risk and gender

Interpersonal violence acts	Men (n = 69) N (%)	Women (n = 178) N (%)	Total (n = 247) N (%)	p-value
Physically hurt				
Yes	17 (24.6)	46 (25.8)	63 (25.5)	.72
No	52 (75.4)	132 (74.2)	184 (74.5)	
Insulted or talked down				
Yes	25 (36.2)	75 (42.1)	100 (40.5)	.40
No	44 (63.8)	103 (57.9)	147 (59.5)	
Threatened to be harmed				
Yes	14 (20.3)	54 (30.3)	68 (27.5)	.06
No	55 (79.7)	124 (69.7)	179 (72.5)	
Screamed or cursed				
Yes	17 (24.6)	67 (37.6)	84 (34.0)	.10
No	52 (75.4)	111 (62.4)	163 (66.0)	
Experienced any IPV				
Yes	30 (43.5)	93 (52.2)	123 (49.8)	.69
No	39 (56.5)	85 (47.8)	124 (50.2)	
Met CES-D criteria for Depression				
Yes	33 (47.8)	95 (53.4)	128 (51.8)	.43
No	36 (52.2)	83 (46.6)	119 (48.2)	

Abbreviations: CES-D, Center for Epidemiological Studies Depression Scale; IPV, interpersonal violence.

covariates were significant: taking care of three or more children and being employed were associated with increased likelihood of meeting the CES-D criteria for depression, and having a primary education or higher and earning Kenya Shillings (Kshs.) 10,000 (equivalent to \$100) or higher per month was associated with decreased odds of meeting the CES-D criteria for depression.

4 | DISCUSSION

The purpose of the current study was to examine the prevalence of IPV and depression in a sample of male and female CCWDs in Kenya. Additionally, we examined the association between IPV and depression after adjusting for potential confounders, such as age, gender, number of children and other socio-demographic variables. Our findings indicated that 49.8% of the participants experienced some form of IPV and 51.8% met the CES-D criteria for being at risk for clinical depression. A higher proportion of women than men experienced all forms of IPV and met CES-D criteria for depression; however, the differences were not statistically significant. Further, experiencing any form of IPV was significantly associated with meeting the CES-D criteria for depression, with participants experiencing a combination of physical and psychological IPV having the highest odds of meeting CES-D criteria for depression.

The finding that there were no significant gender differences in the prevalence of IPV is inconsistent with prior research indicating that there is a higher prevalence of IPV victimization for women than men (Ansara & Hindin, 2010; Cunradi, 2009). Specific to most

Kenyan communities that follow the patriarchal order in a family system, this finding is unexpected. While this finding needs to be investigated further, a possible explanation for this result is that participants in the current study identified as CCWDs, and thus, they may have been in a vulnerable position leading to a higher likelihood of experiencing IPV irrespective of gender. Additionally, having a child with a disability could have made men more willing to talk about their experiences in the home, irrespective of societal and cultural norms. Importantly, the study was conducted in Nairobi, which is an urban area. Thus, it is possible that responses from participants living in rural areas in Kenya could be different.

While a higher proportion of women (53.4%) than men (47.8%) met the CES-D criteria for depression risk, the differences were statistically insignificant ($p = .4$). This result concurs with previous research, which indicates that CCWDs irrespective of gender are at an increased risk for depressive symptoms (Benson & Karlof, 2009; Trute & Hiebert-Murphy, 2005). Indeed, the 51.8% prevalence rate of depression risk in the current study is higher than the 34% to 44% rates that have been recorded in the general Kenyan population (Ndeti et al., 2009; Othieno et al., 2014).

The prevalence of depression risk in the current study (51.8%) is lower than the 79% rate reported by Mbugua et al. (2011) in their study composed of caregivers of children with intellectual disabilities in Kenya. The differences in the findings between the two studies could be attributed to differences in study settings. While Mbugua and colleagues recruited participants from a rural setting, the current study participants were recruited from an urban setting, specifically Kenya's capital city. Living in an urban

TABLE 3 Logistic regression analysis of the association between depression and reporting physical, psychological and combined interpersonal violence

Main independent variables	Model 1 (PsA)			Model 2 (PhA)			Model 3 (CoS)		
	OR	95% CI		OR	95% CI		OR	95% CI	
Experienced psychological aggression (Re: No)	1.76 [†]	1.00	3.27	-	-	-	-	-	-
Experienced physical assault (Re: No)	-	-	-	4.41 ^{**}	2.02	9.61	-	-	-
Composite IPV severity (Re: None)									
Single IPV	-	-	-	-	-	-	1.25	0.60	2.58
Combined IPV	-	-	-	-	-	-	4.85 ^{**}	1.98	11.9
Model covariates									
Women (Re: Men)	1.12	0.57	2.16	1.97	0.67	2.73	1.33	0.62	2.87
Number of children raising (Re: One)									
Two	2.08	0.84	5.06	1.97	0.77	5	1.89	0.66	4.96
Three and Above	3.12 ^{**}	1.37	6.7	3.48 ^{**}	1.52	7.98	3.38 [†]	1.34	8.51
Education level (Re: less than primary)									
Primary	0.09 ^{**}	0.03	0.28	0.07 ^{**}	0.02	0.23	0.05 ^{**}	0.02	0.2
Secondary	0.11 ^{**}	0.03	0.34	0.11 ^{**}	0.03	0.36	0.09 ^{**}	0.02	0.35
College or higher	0.12 ^{**}	0.03	0.42	0.12 ^{**}	0.03	0.42	0.13 ^{**}	0.03	0.5
Employed (Re: Unemployed)	3.15 [†]	1.29	7.71	3.54 ^{**}	1.41	8.88	3.70 [†]	1.35	10.2
Monthly income (Re: Less than Kshs. 5,000)									
Kshs. 5,000–9,999	0.42	0.16	1.15	0.46	0.17	1.21	0.43	0.15	1.23
Kshs. 10,000–49,999	0.29 ^{**}	0.09	0.84	0.34	0.11	1.08	0.26 [†]	0.07	0.88
Kshs. 50,000 and above	0.14 ^{**}	0.03	0.62	0.17 [†]	0.03	0.86	0.13 [†]	0.02	0.72
Model evaluation									
Hosmer and Lemeshow Test	$\chi^2(8) = 10.67; p = .22$			$\chi^2(8) = 10.97; p = .20$			$\chi^2(8) = 7.61; p = .47$		
Nagelkerke R^2	.26			.31			.32		

Abbreviations: CoS, composite IPV severity; PhA, physical assault; PsA, psychological aggression.

[†] $p < .05$.

^{**} $p < .01$.

setting, particularly the capital city, could have afforded participants in the current study more amenities and resources including hospitals and access to non-governmental organizations offering services for children with disabilities—a phenomenon referred to as “urban advantage” (Mugisha, 2006). This advantage may have mitigated some stressors associated with taking care of children with disabilities. Another possible explanation for the inconsistent findings could be attributed to differences in experiences of stigma. Specifically, participants in rural settings could have experienced higher stigma compared with their urban dwelling counterparts consistent with results in previous studies (Jameson & Blank, 2007; Mugoya & Ernst, 2014). High rates of stigmatization of CCWDs in rural areas have been attributed to a higher prevalence of negative traditional beliefs about causes of disability such as a disability being attributed to curses and witchcraft (Doris & Theresa, 2015; Ogechi & Ruto, 2002). Gender differences in HIV-related stigma in Kenya. *AIDS care*, 26(2), 206–213).

The findings of this study also show that IPV victimization—irrespective of type—was significantly associated with

increased likelihood of meeting the CES-D criteria for depression. Furthermore, those facing a combination of physical and psychological violence had the highest likelihood of experiencing depression. This latter finding is consistent with previous research, indicating that in addition to IPV being associated with depression risk, co-occurrence of psychological abuse with physical abuse magnifies the risk of depressive symptoms, as compared to when the abuse happens in isolation (Houry, Kaslow, & Thompson, 2005; Leiner, Compton, Houry, & Kaslow, 2008; Mugoya et al., 2017).

Our findings further indicate that participants reporting physical IPV victimization had a higher risk for depression than those reporting psychological aggression alone. Research indicates that individuals reporting physical assault often experience anxiety, helplessness and feelings of powerlessness (Johansen, Eilertsen, Nordanger, & Weisaeth, 2013; Mugoya et al., 2015), all of which can increase the risk for depression. Related to this and relevant to the current study's findings are unmeasured factors including cultural factors, which could potentially increase the risk of IPV. For instance, Marsh et al. (2011) reported that in some communities in Kenya, mothers

are usually blamed for having a child with a disability. Women in such communities are more vulnerable to IPV. Indeed, researchers have noted that cultural-specific factors and experiences may influence levels of and outcomes associated with IPV (Lacey, McPherson, Samuel, Sears, & Head, 2013; Taft, Bryant-Davis, Woodward, Tilman, & Torres, 2009).

While psychological IPV victimization had relatively lower odds for depression risk (OR 1.92, $p < .05$) when compared to physical assault (OR 4.81, $p < .01$), the association was still statistically significant at $p < .05$. This indicates that psychological aggression is an important factor in mental health outcomes. It is noteworthy that previous studies indicate that psychological aggression perpetration is one of the strongest and most consistent predictors of physical aggression perpetration (Baker & Stith, 2008; Murphy & O'Leary, 1989). While causal relationships between psychological aggression and physical assault could not be established in the current study, it is important to note that over 90% of the participants reporting physical assault victimization also experienced psychological aggression. This finding is consistent with past research that has found that women typically experience more than one form of abuse (Lacey et al., 2013; Mugoya et al., 2017). Because of this, early screening for psychological aggression could deter progression into physical aggression and potentially decrease fatalities related to IPV in this population.

Several covariates were also significantly associated with depressive symptoms including: (a) number of children the participant was raising, (b) level of education, (c) employment status and (d) income. Participants who indicated that they were taking care of three or more children were significantly more likely to meet the CES-D criteria for depression in all of the regression models. This finding concurs with results by Solanke (2018) in a study conducted in Nigeria. Taking care of more children has the potential of increasing the stress of the parents of children with disabilities, leading to expression of more depressive symptoms. Similarly, participants earning the least income and those with low education were significantly more likely to meet the CES-D criteria for depression in all of the regression models. Low educational attainment and lack of resources due to poor income are often representative of those in low socio-economic status (SES). This finding is consistent with previous literature indicating that individuals of lower SES are disproportionately affected by depression (Lorant et al., 2003; Mugoya et al., 2017).

5 | IMPLICATIONS FOR NURSING AND MENTAL HEALTH

The high prevalence of depressive symptoms among CCWDs indicates that mental health professionals should be encouraged to screen for IPV and depressive symptoms. Indeed, given previous studies involving elderly population showing that caregivers who are stressed and experiencing mental health problems such as anger, anxiety and depression are at a higher risk of engaging in

potentially harmful behaviour against their care-recipients (MacNeil et al., 2009), assessing and taking steps to reduce such stressors is paramount. This is not only important in the promotion of the mental health of the caregivers themselves but may have a protective quality for the children with disability because they may be at reduced risk of neglect and/or abuse from their caregivers.

The current study is among the few studies that have assessed the prevalence of IPV for both men and women in Kenya and its association with depressive symptoms. The problem, however, is that there is a disparity in screening for depression between men and women. Although men and women experience depression differently and may exhibit differing symptoms, the prevalence rates are similar; therefore, mental health professionals should be just as intentional with screening for depression in men as they are with women (National Institutes of Mental Health, 2017). The findings from this study also indicate that there are insignificant differences between men and women in the prevalence of IPV. Mental health professionals, including nurses, should be trained and encouraged to screen for IPV in both men and women.

Notwithstanding, many societal norms exclude men from being considered as victims of IPV. This is especially true in Kenya, where despite influences of Western culture the traditional role of the Kenyan man/father being seen as the provider and protector of the family persists. This makes it difficult for men to report acts of IPV. As such, there is need for healthcare providers, including nurses and counsellors, to provide targeted and intentional advocacy initiatives. This could include educating the public and healthcare providers about the presence of IPV, particularly among CCWDs and the unintended consequences that may come from undiagnosed or under-treated depression.

Additionally, with the increasing diversity of populations being cared for by healthcare providers around the world, including the United States, mental health practitioners and nurses should be cognizant of the role of culture as it relates to having a child with a disability and its possible association with IPV and comorbid mental health conditions. Specific training in cultural sensitivity, awareness and competency are warranted in mental health settings. Equally important is the consideration of the diversity of the populations that mental health professionals must care for in today's healthcare systems, which should be commensurate with the diversity of mental healthcare providers themselves. Therefore, increasing diversity of mental healthcare providers may promote better outcomes in this population.

Finally, mental health professionals working with CCWDs should be aware of other barriers that often exist for such individuals, especially those exhibiting help-seeking behaviours. Nurses, who provide a majority of direct patient care at all levels of health services delivery (Kenya Ministry of Health, 2014), are also in a unique position to promote screening for depression and other mental health correlates to alleviate suffering, mitigate negative general and mental health outcomes, as well as promotion of brief intervention, and referral to treatment for depressive symptomatology in this population.

6 | LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

The results of the study should be considered in conjunction with the investigation's limitations. First, this study's cross-sectional design restricts the ability to establish causal associations among the study variables. Future prospective study designs are needed to examine temporal sequence between IPV and depression among CCWDs. Second, the study was limited to Nairobi; thus, study findings cannot be generalized to the entire country (Kenya), especially the rural areas. Given the potential differences between urban and rural areas, future studies should consider more inclusive sampling methods that include both rural and urban populations. Third, there is a possibility that the results of the study are subject to participation bias because the sample studied was chosen out of convenience and voluntarily participated and, thus, may have been uniquely motivated. Fourth, the exclusive use of self-report measures could have presented problems related to response bias. Memory or motivational factors may affect the accurate reporting of traumatic events such as IPV. In addition, underreporting and over reporting may be evidenced among both men and women who experience IPV (see Hooper, Stockton, Krupnick, & Green, 2011). Thus, future studies should include data from other reporters. Finally, the measure of IPV was limited to four items in the current study and the responses were dichotomized (Yes/No). This resulted in limited analyses related to the full range of IPV including frequency and recency of IPV. Future studies should consider the full scale or all items in the subscales of validated measures of IPV such as the Revised Conflict Tactics Scales (CTS2; Straus et al., 1996). Finally given the complexity of IPV, future researchers should consider assessing more than one facet of violence, for example frequency and severity.

7 | RELEVANCE STATEMENT

Although intimate partner violence (IPV) is associated with negative mental health outcomes, few studies have examined the prevalence and mental health correlates of IPV among families caring for children with disabilities, and what factors increase the likelihood of IPV in this specific population. Approximately half (49.8%) of the participants in the current study experienced IPV and 51.8% met criteria for depression. There were significant associations between IPV victimization of any form and meeting criteria for depression. Participants experiencing a combination of physical and emotional violence had the highest odds of meeting criteria for depression (OR 4.85). Implications for nurses and other mental health professionals include promotion of screening for IPV, depression and other mental health correlates to alleviate suffering, mitigate negative general health and mental health outcomes, as well the promotion of brief intervention and referral to treatment for depressive symptomatology. Additionally, working towards establishing a more diverse mental healthcare workforce may yield better outcomes for this

population considering the increasing diversity of the populations that are served.

ETHICAL APPROVAL

We testify that this article submitted has not been published elsewhere nor is it being currently considered for publication in another journal. Further, all authors have been personally and actively involved in substantive work leading to this manuscript.

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