Original Article

Effectiveness of Community-based Approach in Reducing the Intimate Partner Violence (IPV) Exposure and Outcome: A Randomised Controlled Trial of IPV Victimisation and Perpetration in Rwanda

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Abstract

Background
Few studies have explored the effectiveness of the Community-Based Approach (CBA) on the reduction of intimate partner violence (IPV) exposure and its outcomes in Rwanda. This study, therefore, aimed at assessing the effectiveness of the Community-Based Approach (CBA) for IPV victimisation and perpetration as well as its associated mental health outcomes in Rwanda.

Methods
A randomised controlled trial was conducted on a sample of 32 couples, with 17 couples assigned in treatment group and 15 assigned in control group. Data analyses were computed using mixed ANOVAs to evaluate the effect of CBA over IPV occurrence and mental health outcomes.

Results
The results revealed a noticeable difference across the time points for IPV, anxiety, and depression, while the difference was not significant for PTSD. All variables showed a significant difference between groups, including IPV, anxiety, depression, and PTSD. Additionally, there was a meaningful interaction between time and group for IPV, anxiety, and depression. A similar interaction was also observed between time and sex for both anxiety and depression. Notably, both males' and females' IPV scores decreased to nearly the same level, while anxiety and depression scores declined more in females than in males.

Conclusion
Our findings highlight substantial efficacy of CBA for victims and perpetrators of IPV in reducing IPV, anxiety and depression symptoms in Rwanda, a post-genocide country.

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Keywords: IPV, community support, emotions management, anxiety, depression, PTSD, Rwanda

Introduction

Globally, intimate partner violence (IPV) against woman is considered as an important social and public health issue. IPV refers to physical, sexual or emotional harm by a current or former intimate partner.[1] It has been estimated that almost 30% of all women in the world have experienced IPV.[2] South- East Asia, the Mediterranean region and Africa were found to have the highest lifetime prevalence of physical and/or sexual IPV.[3,4] According to the analysis of data from 77 studies conducted by World Health Organization (WHO), 33% of women have ever experienced physical or sexual violence in Africa region, which was similar to South-East Asia and Mediterranean region (31%).[5] Within the region, the national surveys demonstrated that the prevalence of lifetime physical and/or sexual violence among women from age 15 to 49 years ranges from 47% in DRC to 16 % in Cameroon.[5] Similarly, the national survey in Rwanda also found that 38% of Rwandan women experience physical and / or sexual violence in their lifetime,[5] which keeps placing Rwanda among the countries with the highest prevalence of intimate partner violence in the world. Recently data from the 2019/2020 Rwanda Demographic and Health Survey (RDHS) has showed that the percentage of women who report IPV experience increased from 40.1% in 2015 to 46% in 2020 but declined from 21% to 17% for men in the same period.[6]

Exposure to IPV, like any other experiences of violence (gender-based violence, sexual violence), is reported to have deleterious and long-lasting negative effects on the victims. Research findings and clinic records have shown that women who are victims of IPV are likely to report a wide range of negative health consequences (physical and mental) such as depression, anxiety, post-traumatic stress disorder (PTSD), suicide ideations and attempts, alcohol and drug use disorders, physical injuries, and even death.[3,7,8] The negative effect of the IPV exposure is reported to affect offspring, meaning that children from families where there is violence may also suffer from a range of behavioral and emotional problems.[9] On the other hand, there is well documented associations between psychopathology and IPV victimisation and perpetration. Such comorbidity implies that the association between IPV and mental disorders is bi-directional, meaning that IPV may cause mental sufferance and vice-versa; as such mentally ill individuals are likely to experience or inflict frequent IPV than non-mentally affected individuals.[10,11]

The genocide committed against Tutsi in Rwanda has left the surviving victims with deep wounds and scars, both physical and mental, which are seen particularly during commemoration events.[12] As from the growing research interests assessing the long-lasting effects of the genocide on both the general population and survivors, results yield quite high prevalence of mental disorders in both samples, with highest scores in the sub-sample of survivors.[13] Equally, scholars estimate the post-traumatic burden to affect not only the direct victims of the genocide but possibly their offspring as well through different mechanisms of transmission.[14,15] These Genocide-related mental health conditions particularly post-traumatic stress disorder (PTSD), depression, and anxiety may also increase vulnerability to intimate partner violence (IPV).[16] Trauma-related symptoms such as emotional dysregulation, hyperarousal, and impaired interpersonal functioning can negatively affect intimate relationships, increasing the risk of conflict, aggression, and victimisation.[16–20] In the same vein, chronic mental disorders, particularly PTSD and depression, are considered to be predictors of the worsening of family harmony and sometimes leading to disputes and related IPV related psychopathologies.[21] In an effort to address IPV and its associated mental health problems being a public health concern in post-genocide Rwanda, some non-governmental organisations (NGOs) have developed and implemented programs aimed at empowering women and

changing community norms that support violence and male dominance in sub-Saharan Africa. These programs are reported to have had a positive effect on IPV victimisation and perpetration with additional intervention benefits like improvement in depression symptoms, conflict management, communication, trust, self-efficacy, household earnings, food security and actions to prevent IPV. [8] Such programs have focused on raising awareness on domestic violence and intimate partner violence, with a working hypothesis that the increase of knowledge on the IPV phenomenon will reduce its perpetration and victimisation. Moreover, these studies were limited in their design as few interventions worked on past-mental burden which is likely to negatively affect couples' communication and intimacy. Equally, little attention was directed to the anxiety and PTSD disorders which were estimated to be ubiquitous to IPV exposure and perpetration.

However, amongst the local organisations intervening in the area of domestic violence in Rwanda, the Life Wounds Healing Association (LIWOHA) has almost twenty years' experience of intensive work in communities managing IPV from a Community Based Approach (CBA) by integrating psychoeducation, psychosocial support and emotions management models. The working paradigm of the organisation is that violent behaviours in couples are induced by life wounds rooted in the past. This paradigm is theoretically grounded in the concept of "Healing Together"[22] which posits that IPV management, and the treatment of associated mental disorders are relational processes in which both perpetrators and victims actively participate. Within this framework, positive in-session behaviours demonstrated by the offender facilitate the victim's psychological recovery, enabling both partners to continue the healing journey together. The "Healing Together" paradigm is very key in the community-based approach to mental health where the IPV perpetrator and victim co-create their mental health through re-established structures of communication, solidarity and conflicts transformation. The concept affirms that mental health resources are found in the community and the individuals that compose it.[22,23] Therefore, unless perpetrators and victims discover the real cause of their violent behaviours and work on them, it assumed that awareness raising, and law enforcement themselves will not discourage IPV perpetrators.

In a longitudinal study design examining the impact of the LIWOHA group-based intervention,[24] revealed that the approach was effective in bringing together members of opposing groups (survivors and perpetrators of the genocide) by facilitating mutual healing and restored trust; establishing new social identities and regained a strong sense of belonging. While this approach is being utilised in managing IPV cases, none of the existing studies have assessed its effectiveness in lowering IPV perpetration and victimisation occurrence as well as it's improvement in outcomes like anxiety, depression, and PTSD symptoms.

This study aims to evaluate the effectiveness of the community-based approach in managing Intimate Partner Violence (IPV), anxiety, depression and post-traumatic stress disorder (PTSD) among individuals reporting IPV. We hypothesised that exposure to IPV would be significantly associated with higher levels of anxiety, depression, and PTSD symptoms, and that participants in the experimental group receiving the community-based intervention would exhibit lower levels of these symptoms, as well as reduced IPV symptoms, compared to the control group.

Methods

Study design and setting

This study employed a quantitative approach using a two-arm randomised controlled trial (RCT) design to test the effectiveness of a Community-Based Approach (CBA)

in reducing intimate partner violence (IPV) victimisation and perpetration, and improving related mental health outcomes among couples identified as being in conflict (ingo zananiranye).[26]

Participants

Participants were recruited from Ntungamo and Kankuba cells in Mageragere Sector, City of Kigali. These cells were purposively selected in collaboration with local authorities based on the presence of households with documented histories of IPV and minimal overlap with other ongoing community-based interventions. From a list of 113 couples (226 individuals) provided by the Sector Executive Secretary, considered by local authorities as experiencing conflict, 55 couples (110 individuals) from both cells did not attend the randomisation. Of the 58 couples (116 individuals) who were present during the randomisation, 26 couples (52 individuals) did not meet the inclusion criteria. Ultimately, only 32 couples (64 individuals) met the eligibility criteria, which included providing consent, having a history of IPV, and being available to attend all workshop sessions. This sample size was determined primarily based on the results of a power analysis, which indicated that a minimum of 28 couples (56 individuals) would be necessary to detect a medium effect size with 80% power and a significance level of 0.05. Considering potential attrition, we increased the number to 32 couples (64 individuals) to ensure robustness in our findings. This approach aligns with recommendations for pilot studies where establishing preliminary effects is crucial. Furthermore, the sample size was randomly distributed in treatment and control groups. As such, 32 couples (64 individuals), 17 couples (34 individuals) from Nkankuba Cell (Treatment group) and 15 couples (30 individuals) from Ntungamo Cell (control group), (male=50% and female=50%, with a mean age of 36.9, SD=9.9) granted their consent to participate in the research either as experimental or control (Figure 1).

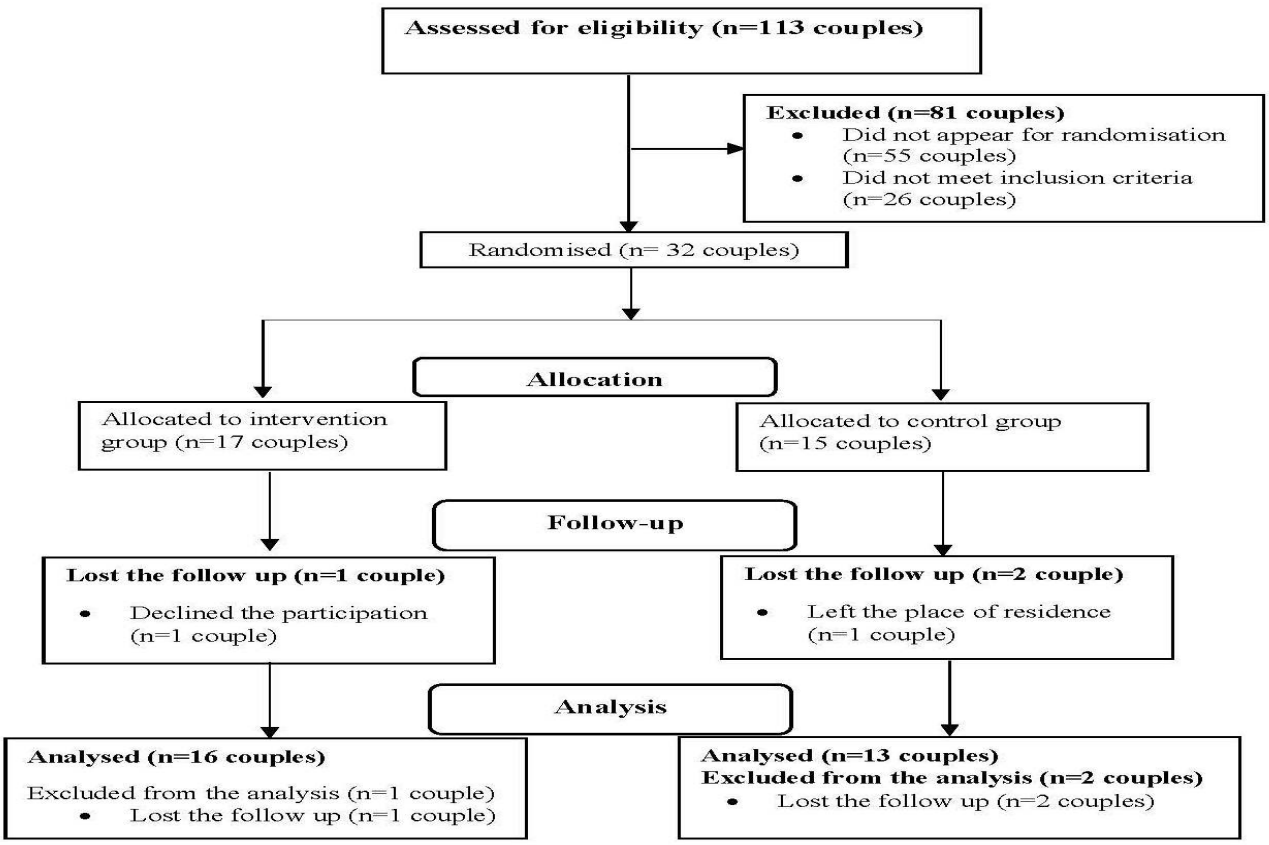

Figure 1. The consort diagram of cohort of community-based approach showing the flow of participants' enrolment over time

Procedure

Data was collected from June to December 2020. Experimental group received the LIWOHA workshops package delivered by a clinical psychologist working with the organisation. It was important that the sessions are facilitated by the same trained staff from the organisation to ensure accuracy and fidelity. Only the treatment group attended the workshops. The workshops' structure was in total 13 days, with a time interval of 3 to 4 weeks between sessions. The interval time was meant for participants to practice what they have learned from the preceding session. Structured interviews were conducted with participants in the experimental group at three time points: baseline (pre-intervention), midline (during the intervention), and endline (post-intervention). On the side of the control group, which did not receive the LIWOHA package, participants were also assessed at the same time as the experimental group. The control group was only followed and supported by the cells personnel by educating participants on the existing laws and policies for mitigating and punishing all IPV behaviours. An independent clinical psychologist with a master's degree and extensive experience in data collection, was hired to serve as a data collector.

Treatment development

The official accreditation of LIWOHA was preceded by a very long experience of action on the field and research on the causes and effects of violence on individual lives, family well-being and community life (harmony and disharmony). This experience started during the first years of the post-genocide era in 1997 as "Community Mental Health Programme". At the time, trained university lecturers with experience in psychology started caring for traumatised people; mainly using individualistic psychological approaches. They quickly realised that existing models centered on individual's needs (clinic centered) had limited effect on the shared nature of trauma and related life wounds hence, they devised a new model that could help to work on different levels of life wounds (mainly individual, relational and societal). Since life wounds rooted in early years of childhood and those caused by the genocide were recognised as the key causes of domestic and sexual violence in local communities, further developments of the new model were fed mainly by empirical studies on different forms of violence observed in local communities. These studies were conducted mainly from 2007 and 2009. Afterwards, LIWOHA initiated intensive interventions in the communities of Mbazi and Ruhashya sectors of Huye District, and Mageragere sector in Nyarugenge District.

The basic philosophy of the new model (CBA) is that the professionals do not come with an "expert model" and a methodology that has fixed steps. They do not propose solutions to solve problems identified, but rather, they engage beneficiaries in a sort of "healing journey" where each couple works on life wounds that induced family conflicts, domestic and sexual violence. Furthermore, beneficiaries try to identify their own resources (potential) on which they could rely on in the initiation of the healing process. Hence, beneficiaries identify for themselves the causes of violence, their consequences on their lives and come up with their own solutions. Another important feature of the model is that former victims and authors of violence become active resources in the community who engage themselves in identifying and helping other victims of violence. The ultimate outcome of the process, therefore, is community appropriation of competences brought by professionals. The new model is underpinned by the idea that if most life wounds are shared by members of communities, then the healing process should also be a shared experience that is totally owned by victims, authors and community members. LIWOHA developed a CBA that works not only on individual wounds but also on relational and societal wounds that constitute the root causes of domestic and sexual violence.

Treatment manualisation

The community-based approach on IPV and sexual violence is conceived as a dynamic

process where community members willing to recover from life wounds induced by IPV and sexual violence agree to share their lived experiences in order to work on them accordingly and to support each other in this healing journey. The main steps or sessions of a community healing program can be summarised as follow:

1. Awareness and sensitisation session (3 days) dedicated to education participants (victims and perpetrators of domestic, gender and sexual violence) on the destructive nature of life wounds rooted in their past as root causes of violent behaviors. The objective of the workshop is to awaken the beneficiaries on the destructive potential of these types of violence as far as family harmony and the social fabric is concerned.

2. "Life wounds mourning session" (3 days) dedicated to couples living in permanent conflicts on how to deal accordingly with their important past losses that prevent them from establishing pacified relationships in their families and care for their children (who consequently flee their home, live carelessly, and fall in vulnerability). The objective of this session is to start the healing "journey" that normally results in the re-establishment of harmonious relationships and adoption of positive parenting styles that prevent children from fleeing their home again.

3. Sessions dedicated to the "management of negative psychological feelings" (3 days) associated with life wounds. These sessions follow those dedicated to positive mourning and aim at helping beneficiaries to deal accordingly with negative emotions and sentiments induced by life wounds rooted in the past and actual violent behaviors in families.

4. Sessions dedicated to "forgiveness and reconciliation with their own past" (2 days) and with others. Workshops related to this step help beneficiaries to reconnect with others. During these sessions, perpetrators of domestic and gender violence ask for forgiveness and make a commitment to no longer abuse their victims and submit themselves to community monitoring.

5. The last sessions are dedicated to the "development of a new project for a new life" (2 days). In this last step, healed people define a new lifestyle without violence and commit to resume assuming family responsibilities he/she had abandoned in the past.

Tools

All study measures underwent a rigorous forward–backward translation process to produce Kinyarwanda versions equivalent to the original English instruments. First, two bilingual clinical psychologists independently translated all tools from English into Kinyarwanda, prioritising conceptual equivalence rather than literal word-for-word translation. Next, two additional bilingual clinical psychologists reviewed the Kinyarwanda versions to identify and resolve any unclear, inappropriate, or culturally incongruent expressions or concepts. The revised Kinyarwanda questionnaires were then independently back translated into English by the same two psychologists who conducted the forward translation. Finally, all four bilingual experts jointly compared the original English versions with the back-translated versions, discussed any discrepancies, and reached consensus on the final, culturally appropriate Kinyarwanda versions of the instruments. All tools have shown a good level of reliability, with Cronbach's alpha coefficients ranged from 0.70 and 0.95.[25]

Socio-demographic questionnaire:

A structured socio-demographic questionnaire was administered to collect background information on participants. The questionnaire captured data on age, sex, marital status, level of education, ubudehe category, duration of cohabitation with the partner, parental status and number of children, living arrangements, presence of medical conditions, history and frequency of separation.

The HITS (Hurt, Insult, Threaten, and Scream) is a 7 items Likert scale which is used to evaluate intimate partner violence. [26] All items were scored as: 0=never, 1=rarely, 2=sometimes, 3=fairly often, and 4=frequently. The total scores ranged from Score 0 to 24. In our sample the Cronbach's alpha was 0.79.

The Hopkins Symptom Check List-25 (HSCL-25) is a 25 items instrument which is used to measure common psychiatric symptoms of depression and anxiety in both clinical and non-clinical samples.[27] The first 10 items assess anxiety symptoms, and the remaining 15 items assess depression. [28] Our sample showed a good internal consistency for anxiety (α=0.89) and depression (α=0.88) subscales.

The PTSD Checklist for DSM-5 (PCL-5) is a 20 items self-reported instrument that was used to evaluate the 20 DSM-5 symptoms of post-traumatic stress disorder.[29] All items were scored on the Likert scale: 0=Not at all, 1=A little bit, 2=moderately, 3=Quite a bit and 4=extremely. The total score ranged from 0 to 20. The Cronbach's Alpha was 0.87 in our sample.

Data analysis

Data was analysed descriptively using mean, standard deviation, frequencies and percentages to describe the characteristics of participants, including age, marital status, sex, level of education, number of children, medical condition and so on. The Pearson correlation coefficient was performed to test the correlation between IPV and mental health outcomes.Moreover, the effectiveness of community-based approach to victims/perpetrators of Intimate partner violence and mental health disorders was evaluated using a mixed ANOVAs with a within-subjects' factors (the time in which the group was measured) and a between-subjects factor (groups). All analysis was performed using statistical package for social science (SPSS version 25).

Ethical consideration

The study was submitted and approved by the University of Rwanda College of Medicine and Health Sciences' Institutional Review Board (IRB); approval letter No 033/CMHS-IRB/2020 of 18th February 2020. Ethical principles were fully complied for and included free informed consent and privacy principles. Additionally, this study is registered in clinical trials NCT06768502). [30]

Results

Sociodemographic characteristics

Participants' age ranged from 20 years to 72 years, with a mean age of 36.9 years (SD=9.9). The majority of respondents were cohabited (58.1 percent), only 41.9 were married. Above a half (50.8 percent) reported that they had spent more than ten years living with their partners, 29.5 percent had spent from six to ten years and 19.7 percent had spent one to five years. The results also showed that the majority of participants (55.3 percent) separated with their partners at least once. About education level, the majority had primary level (73.3 percent), followed by illiterate (15%) and the rest had secondary level (11.3%), (Table1)

In terms of family structure, 98.4 percent of participants had at least one child. Of the participants reported having children, 35 % also reported that they had other children born from other mothers and 29.8 percent reported that they were living with other family members. Regarding their socioeconomic categories (ubudehe categories), 50.8% were in category 2(poor); 40.7 % in category 3 (middle class) and 8.5% were in category 1(very poor). Additionally, 14.8% of participants reported that they had medical conditions (Table1).

Table 1. Participant characteristics

Variables	Frequency	Percent
Sex		
Female	32	50
Male	32	50
Marital status		
Married	26	41.9
Cohabiting	36	58.1
Level of education		
No education level	9	15
Primary	44	73.3
Secondary	7	11.7
Ubudehe category		
Category 1	5	8.5
Category 2	30	50.8
Category 3	24	40.7
Time spent living with partner		
1-5 years	12	19.7
6-10 years	18	29.5
11-15 years	17	27.9
16-20 years	6	9.8
21 and above	8	13.1
Have a child		
Yes	60	98.4
No	1	1.6
Number of children		
1-3	42	71.2
4-6	14	23.7
7 and above	3	5.1
Have another child		
Yes	21	35
No	39	65
Living with other family members		
Yes	3	5.3
No	54	94.7
Have medical condition		
Yes	9	14.8
No	52	85.2
Have separated		
Yes	33	55
No	27	45
Number of separation (Mean)	2.9	
Age (Mean)	36.9	

Inter-correlation between variables

The results revealed that IPV was significantly and positively correlated with anxiety, depression, and PTSD. The correlation coefficients ranged from 0.595 between IPV and depression to 0.638 between IPV and anxiety.

Table 2. Inter-correlation between intimate IPV and mental health disorders (Anxiety, depression and PTSD)

Variables	IPV	Anxiety	Depression	PTSD
IPV	1			
Anxiety	0.638**	1		
Depression	0.595**	0.744**	1	
PTSD	0.598**	0.612**	0.73²**	1

**Correlation is significant at the p=0.01 level (2-tailed)

Effectiveness of Community Based Approach on reduction of IPV and mental health outcomes

A mixed ANOVAs with a within-subject factors (the time in which the group was measured) and a between-subjects (group: treatment and control, and sex: male and female) factor was conducted to measure the effectiveness of community-based approach to the victims of Intimate Partner Violence and mental health disorders. The results showed that there was a significant difference across the time points (pre- and post-intervention), for IPV ($F_{(1,48)}$ =12.38; p=0.001), anxiety ($F_{(1,48)}$ =4.58; p=0.037), and depression ($F_{(1,48)}$ =4.92; p=0.031), however the difference was not significant for PTSD ($F_{(1,48)}$ =0.55; p=0.461).

Regarding between-group differences (control vs treatment group), significant differences were observed for all variables: intimate partner violence ($F_{(1,48)}$ =15.15; p<0.001), anxiety ($F_{(1,48)}$ =5.69; p-value=0.021), depression ($F_{(1,48)}$ =5.40; p-value=0.024), and posttraumatic stress disorders ($F_{(1,48)}$ = 9.26; p=0.004) (Table 3).

There was also a significant interaction between time and group for intimate partner violence ($F_{(1,48)}$=12.37; p=0.001), anxiety ($F_{(1,48)}$ =4.58; p=0.037) and depression (F (1,48) =4.92; p=0.031). Following this interaction, it indicated that the experimental group had very lower scores after the intervention. However, the scores of the control group slightly decreased (Figure 2).

Additionally, the results show that there is a significant interaction between sex and time point for anxiety ($F_{(1,30)}$ =6.25; p=0.018), and depression ($F_{(1,30)}$ =7.02; p=0.013). The interaction was not significant for IPV ($F_{(1,30)}$ =0.55; p=0.461) (Table 4). Following these interactions, it was indicated that the experimental group had very lower scores after the intervention compared to the control group. On the other hand, both males' and females' IPV scores have been reduced to almost the same level (Figure 3), while both anxiety and depression scores decreased more in females than in males (Figure 3).

Table 3. Summary of the program's effectiveness for the analysed variables

Variables	PRE				POST				Between-subjects	Within-subject	Time*group Interactions	
	Experimental group		Control group		Experimental group		Control group					
	M	SD	M	SD	M	SD	M	SD	F(1,48)	F(1,48)	P-value	η^2 semi-partial
IPV	11.31	6.4	13.55	8.22	0.84	1.79	10.11	7.65	15.15*	12.38*	0.001	0.205
Anxiety	7.75	6.76	9.05	6.43	1.37	2.26	6.38	5.34	5.69*	4.58*	0.037	0.087
Depression	12.25	7.3	12.88	6.8	3.75	2.77	8.88	3.81	5.40*	4.92*	0.031	0.093
PTSD	22.03	11.84	27.88	18.5	7.31	4.44	16.22	4.82	2.26*	0.55	0.461	0.011

IPV: Intimate Partner Violence; PTSD: Post-traumatic Stress; * p<0.05

Table 4. Summary of statistics comparing males and females in experimental group, before and after the intervention

Variables	Pre				Post				Between-subjects	Within-subjects	Time*sex Interaction	
	Female		Male		Female		Male					
	M	SD	M	SD	M	SD	M	SD	F(1,30)	F(1,30)	P-value	η2 semi-partial
IPV	13.73	6.23	9.18	5.85	1.33	2.41	0.41	0.87	2.97*	3.30	0.079	0.10
Anxiety	10.87	7.00	5.00	5.35	1.60	2.80	1.18	1.74	6.43*	6.25*	0.018	0.17
Depression	16.47	7.53	8.53	4.77	4.80	2.43	2.82	2.79	15.47*	7.02*	0.013	0.90

IPV: Intimate Partner Violence; * p<0.05

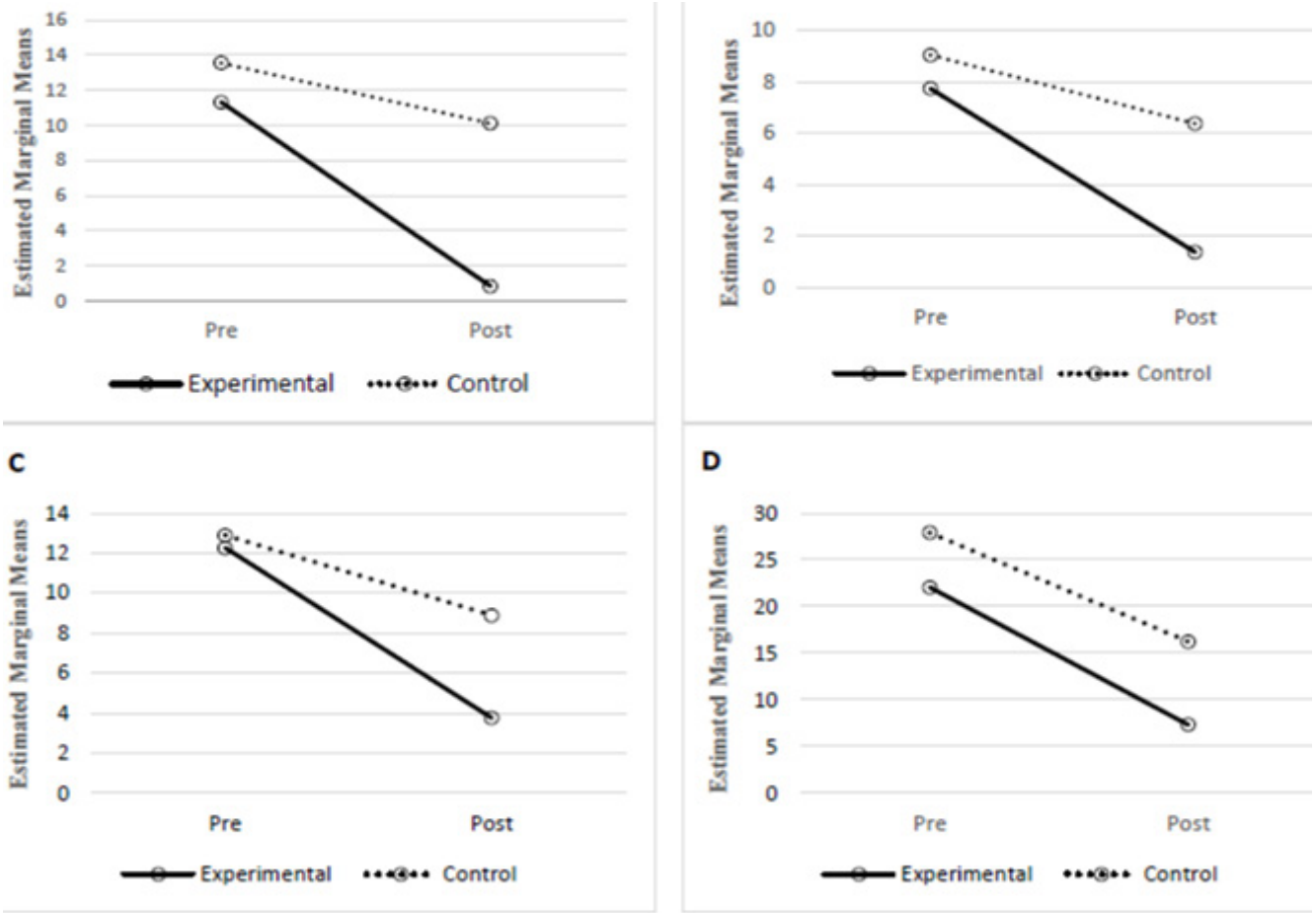

Figure 2. Average values for intimate partner violence and mental health from experimental and control groups before and after intervention. ***A: Intimate partner violence, B: Anxiety, C: Depression, D: Posttraumatic Stress Disorder***

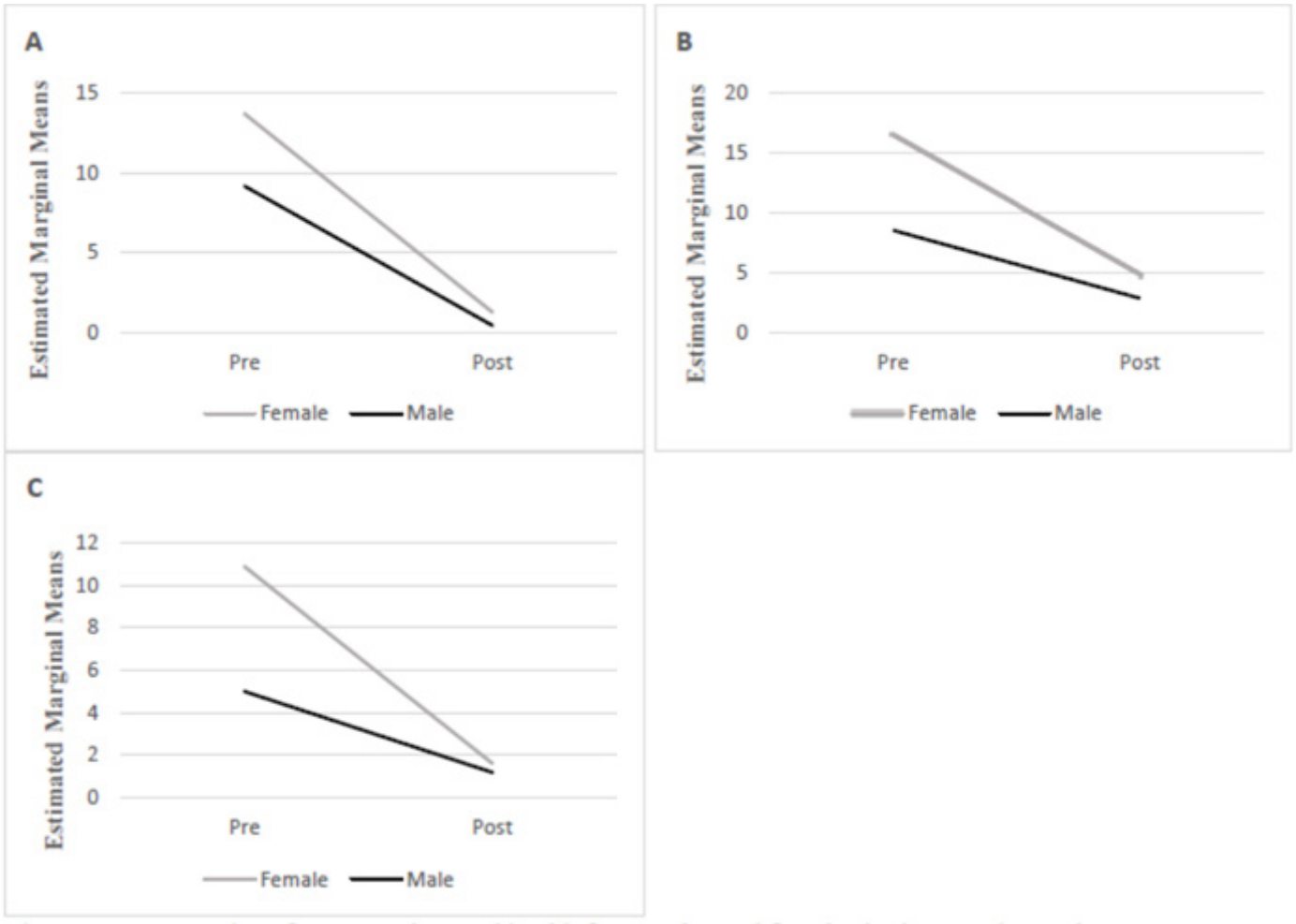

Figure 3. Average values for IPV and mental health from males and females in the experimental group before and after intervention. ***A: Intimate partner violence, B: Anxiety, C: Depression***

Discussion

This study contributes to the limited evidence base examining the effectiveness of Community –based approach (CBA) on IPV and psychological disorders in LMICs, with a focus on tailored, context-specific (cultural, social, and economic) interventions. As hypothesised and found in prior studies, IPV was associated with depression symptoms,[31–35] anxiety,[31,36] and PTSD.[31,37] Notably, we found a significant effectiveness of CBA in reducing IPV, depression and anxiety symptoms among couples in the experimental group when compared with those under the control group,

The non-significant change in PTSD, compared with the improvements observed in depression and anxiety, may reflect the greater responsiveness of depressive and anxiety symptoms to interventions focused on social support, emotional processing, and relational healing, whereas trauma-related symptoms such as PTSD often require longer-term interventions. These findings align with meta-analytic evidence indicating that, while psychosocial interventions may improve other psychological outcomes, PTSD symptoms often show no significant reduction.[38] However, other analysis indicated that carefully targeted trauma-focused treatments combined with empowerment maybe promising approaches to improve PTSD symptoms.[38]

The effectiveness of the CBA can be attributed to its structured yet dynamic design, which targets the underlying psychosocial drivers of violent behaviour rather than focusing solely on symptom reduction. The initial sensitisation sessions facilitated participants' awareness of the destructive consequences of IPV and reframed violent behaviours as manifestations of unresolved "life wounds" rooted in past experiences. Subsequent sessions on mourning past losses and managing negative psychological emotions created a safe space for emotional expression, regulation, and meaning-making, processes that are particularly relevant to the alleviation of depressive symptoms. In line with this study, prior research supports the mechanisms observed in CBA intervention: trauma-informed, psychoeducational, and group-based approaches have been shown to produce significant improvements in depression and other psychological symptoms among individuals exposed to IPV. Meta-analytic evidence indicates that trauma-informed care significantly improves depression and anxiety outcomes in IPV survivors relative to usual care, underscoring the value of awareness and emotion-focused components in intervention design.[39] Moreover, structured psychosocial interventions that incorporate psychoeducation, emotional processing, and supportive group dynamics have been linked with reductions in depressive and post-traumatic stress symptoms among IPV survivors, demonstrating the relevance of these components to mental health recovery.[40]

Furthermore, CBA focused on forgiveness, reconciliation, and commitment to non-violence supported by community monitoring may have contributed to sustained behavioral change among perpetrators while fostering relational repair within couples. Previous research has also shown that forgiveness and reconciliation improve mental wellbeing.[41] Other studies also highlighted that forgiveness increases positive relations with others.[42]

Although a modest decrease in IPV and psychological symptom scores was also observed in the control group, this improvement may be attributed to continued exposure to existing governmental IPV prevention and community sensitisation initiatives in Rwanda, including sensitisation campaigns[8], Umugoroba w'umuryango "evening family conversation",[43] the One Stop Centres and the lawful prosecution of offenders.[44] Such background interventions may have contributed to increased awareness and partial behavior change.

Despite the aforementioned efforts, violence is still evident and, in some cases, even increasing psychosocial problems among couples and families.[8,45] The pioneer of CBA in Rwanda (LIWOHA) shows that these violent behaviours are induced by life wounds rooted in the past. Unless perpetrators discover the real cause of their violent behaviours and work on them, punishment itself does not discourage them from impacting negatively on their wives and children's lives. In post-conflict societies like Rwanda, local communities had a high number of wounded people. It has been observed that at the slightest disagreement, these people do not only engage in conflicts but also attract many others in it, which creates inextricable situations that are potential source of new forms of violence. This study's findigs highlighted that the additional packages of CBA to the existing IPV intervention have singificant effects on IPV, anxiety and depression symptoms reduction in couples under the intervention group. However, there was no significant impact of CBA on PTSD symptoms reduction as our results showed that there was no significant reduction of PTSD symptoms in the experimental group. This means the effects of added CBA intervention to the existing IPV prevention program did not have significant impact on decreasing of PTSD symptoms.

Beyond well-established mental health outcomes, the effectiveness of the CBA can also be understood in relation to

newly identified, context-specific forms of psychological distress. Recent research in Rwanda and Sub-Saharan Africa has described Relationship Disappointment Stress Syndrome (RDSS),[46] a condition characterised by somatic, interpersonal, and purpose-related issues, such as losing trust and interest in others, diminished sexual desire, headache, paralysis, loss of humanism, excessive preoccupation with relationships, and feelings of failing in life's purpose.[46] The core components of the CBA such as collective acknowledgment of past losses, emotional regulation, forgiveness, reconciliation, and the co-construction of new non-violent life projects directly address the relational processes central to RDSS. By fostering open communication, mutual accountability, psychoeducation, forgiveness, reconciliation, emotion management and relational healing, the CBA may alleviate not only depressive and anxiety symptoms but also chronic relational stress and disappointment that sustain cycles of IPV.[46–48] Future research is needed to explore the direct impact of CBA on Disappointment Stress Syndrome (RDSS).

The socio-demographic characteristics of the study population may also help to explain both the high baseline levels of IPV and the observed mental health outcomes. The majority of participants were poor, had low education level, and were in cohabiting rather than legally married relationships. Previous evidence indicates that poverty and economic stress increase the risk of IPV by exacerbating household tensions, power imbalances, and dependence between partners, while simultaneously limiting access to psychosocial and legal support.[49] Low educational attainment has consistently been associated with reduced personal resource bases, including limited cognitive skills and poorer employment prospects. As posited by dependency theory, constrained personal resources increase economic dependence on intimate partners, thereby reducing individuals' ability to exit abusive or unsatisfactory relationships in which violence occurs.[6,49] Similarly, cohabiting unions, particularly in low-resource settings, are often characterised by weaker social and legal protection mechanisms, which may increase vulnerability to both IPV victimisation and perpetration.[50] On the other hands, these structural and relational vulnerabilities are also closely linked to mental health outcomes. Economic hardship limited educational opportunities, and relational insecurity have been associated with elevated risks of depression, anxiety, and psychological distress, especially in post-conflict settings.[51] By addressing IPV and mental health through a community-owned, relationally focused framework, the CBA appears particularly well suited to mitigating these interconnected risks, offering a culturally responsive and sustainable complement to existing legal and clinical approaches.

Strengths and limitations

This study had several strengths, including the targeted recruitment of participants identified as conflicting couples by local authorities, ensuring relevance to the study objectives. Random allocation to treatment and control groups enhanced internal validity by minimising selection bias. Additionally, balanced gender representation and well-defined eligibility criteria improved the study's applicability and rigor. However, the study also faced limitations, such as a small sample size (32 couples), which may have reduced the statistical power and generalisability of the findings. The "first come, first served" recruitment approach introduced potential selection bias, and conducting the study in a limited geographical scope restricted external validity. Furthermore, reliance on self-reported data and the risk of contamination between groups in a community setting could have influenced the study outcomes on the other hands, self-reports make individual subject to under-reporting and disclosure bias.[45] additionally, Participants could not be blinded to their group assignment during the enrollment phase, which may have introduced differential recruitment across study arms. Furthermore, this study did not assess other life wounds that are

common in Rwanda and East Africa, such as Historical Trauma and Cultural Scripts of Trauma.[52]

Conclusion

The results indicated a sound efficacy of Community Based Approach for individuals exposed to IPV, depression and anxiety symptoms. As compared to the control group receiving the government education package on laws and policies preventing IPV in the community, the experimental group that received LIWOHA package demonstrated very significant benefits in lowering levels of IPV, anxiety, and depression. These results suggest that clinicians and relevant stakeholders should prioritize community-based interventions when addressing IPV and associated mental health outcomes, as they appear to be more effective than information-based legal education alone. Future research should address the highlighted limitations to further strengthen the robustness and generalizability of these findings.

Authors' contribution

CB, VS, and LM conceived and designed the study. JI performed the data analysis. CB, JI, AN, PA, VS, and LM contributed to data interpretation. CB and JI drafted the manuscript, with critical input and comments from all co-authors. VS and LM provided supervision throughout the study. All authors read and approved the final version of the manuscript for submission.

Data availability statement

Data are not publicly available due to participant privacy and confidentiality considerations. However, de-identified data may be made available upon reasonable request to the Principal Investigators (PIs).

Competing interests

The authors declare no competing interests.

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