Family-centered interventions for intimate partner violence: A systematic review

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ABSTRACT

The effect of intimate partner violence (IPV) has a spill-over effect on all family members, and as such, any intervention directed at IPV should include all family members directly affected. The spill-over effect indicates that if one part of the family system (e.g. parents) experiences discord or conflict, it may affect the other parts of the family system (through e.g. the parent-child relationship). The aim of this paper was to systematically review family-centered interventions aimed at addressing IPV. Intervention studies were systematically collected from data bases such as PubMed, BioMed Central, SABINET, SocIndex, PsycArticles, and Academic Search Complete for the time period 2005-2015. These studies were methodologically appraised, and results presented according to the RE-AIM framework. Family-centered interventions focused on IPV yielded long-term positive results in improving parent-child interaction, including reductions in IPV, trauma symptoms of mothers, and problematic child behaviours.

Keywords: Domestic violence, family intervention, intimate partner violence, Family re-unification.

INTRODUCTION

The effect of family violence on the family is documented in studies on intimate partner violence (IPV), child abuse, and elder abuse (Tolan-Gorman, Smith & Henry, 2006). Yet, most studies fail to consider the commonalties between family violence subsets, especially its effects on the family, an understanding of which is needed for an integrated, effective response (Gracia, Rodriguez, Martín-Fernández, & Lila, 2017; Ryan & Roman, 2017). The various forms of family violence, namely, IPV, elder abuse, and child abuse, are what is known as subsets of family violence (McClennan, 2010; Gelles, 1999; Tolan et al., 2006; Wallace & Roberson, 2016). IPV refers to abuse (physical, sexual, psychological attacks) occurring between two people in a close relationship (current or former partners), with the violence existing on a continuum from a single episode of violence to ongoing battering (Tjaden & Thoennes, 2006; McClennen, 2010). Often, when IPV occurs, family members are present. These family members may include parents, in-laws, siblings and children (Bassadien & Hochfeld, 2005; Rasool, Vermaak, Pharoah, Louw, & Stavrou 2002).

Youth witnessing family members intentionally hurting one another, were thrice as likely to carry weapons, twice as likely to be in a fight, and four times more likely to have threatened or injured someone with a weapon than youths who had not been exposed to violence in the home (Holborn & Eddy, 2011). Women exposed to IPV in childhood, are at risk for IPV revictimisation in adulthood (Gass, Stein, Williams, & Seedat, 2011; Ryan, Rich & Roman, 2015). Abrahams and Jewkes (2005) report that up to 27% of IPV would not have occurred if boys had not been exposed to IPV, with males

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seen as the main perpetrators in IPV cases, as shown in numerous multi-country studies (Fleming, McCleary-Sills, Morton, Levtov, Heilman, & Barker, 2015; Fulu, Warner, Miedema, Jewkes, Roselli, & Lang, 2013; García-Moreno, et al., 2013; World Health Organization, 2012). These studies imply that young people may learn strategies to cope with violence in their current domestic life which often thereafter impacts on future domestic and other experiences. Therefore, with such 'spill-over' effects, it is argued that a more holistic response is needed to effectively address IPV, as opposed to the individualised batterer, victim or child programmes that are more common (Sartin, Hansen & Huss, 2006; Stover, Meadows & Kantman, 2009; Tolan et al., 2006; Whitaker et al., 2006).

There is a need to consider the family when addressing IPV, namely through a family-centred approach. A family-centred approach focuses on the inclusion of all family members in the intervention and has been argued as the preferred method for family violence interventions (Lock & Le Grange, 2015; Tolan et al., 2006).

A family centred-approach includes all members of the family affected by the violence in the home and emphasises collaboration between the family and the practitioner. In addition, this approach balances the needs of the family with the best interests of its individual members, encourages family input on the plan of care, and treats each family as unique, instead of prescriptive to a specific group (Burns, Dunn, Brady, Starr, & Blosser, 2008). A family-centred approach facilitates a partnership, where the challenges presented are understood contextually, and minimising individual blame. What is happening in the family is focused on, rather than what is wrong with the family; with greater support provided through this approach (Bromfield, Sutherland, & Parker, 2012; Burns, Dunn, Brady, Starr, & Blosser, 2008). Family-based interventions have been reported to reduce IPV and enhance family functioning (e.g. Chaudhury et al., 2016).

Family-centered interventions show long-term success in comparison to victim-centred or perpetrator-centred programs (Gillum, 2008; Stover, Meadows, & Kaufman, 2009; Sumter, 2006). This is attributed to the entire family seen and engaged as the change agent which is paramount in creating a strengthened family equipped with family-centric skills to respond healthily to various stressors.

Previous systematic reviews focusing on IPV examined child and women health outcomes (Bair-Merritt, Blackstone, & Feudtner 2006; Beydoun, Beydoun, Kaufman, Lo, & Zonderman, 2012; Coker, 2007); predisposing risk factors (Capaldi, Knoble, Shortt & Kim, 2012; Gil-González, Vives-Cases, Ruiz, Carvasco-Portiño, & Álvarez-Dardet, 2008); screening tools and programmes (Rabin, Jennings, Campbell, & Bair-Merritt, 2009; O'Reilly, Beale, & Gillies, 2010; O'Campo, Kirst, Tsamis, Chambers, & Achmad, 2011). Regarding family interventions aimed at IPV, a review examining family therapy and systemic interventions by Carr (2009) found IPV to be mainly addressed through couple's therapy. A study conducted by Rizo, Macy, Ermentrout and John (2011), reviewed family interventions addressing IPV over a 20 year period, but from a child-focused perspective. A family-centred intervention extends its focus beyond a particular family member, which is arguably required for addressing IPV which affects all members. A family-based intervention has been reported to reduce violence in the family and enhances family functioning, however, few studies have explored family-based interventions in relation to IPV (Chaudhury, et al., 2016). Therefore, the aim of this paper was to systematically review family-centered interventions aimed at reducing IPV. The objective was to methodologically appraise these interventions in order to identify the most robust evidence-based interventions aimed at IPV reduction through a family-centered approach.

METHOD

The search strategy was formulated by both reviewers (JR & NR). The full search and examination of titles and abstracts matching the selection criteria were done by the first reviewer (JR) and the second reviewer (NR).

Due to the limited family-centered interventions addressing IPV, broad search terms were used. Data bases utilised were PubMed, BioMed Central, SABINET, SocIndex, PsycArticles and Academic Search Complete. Limiters were adapted where necessary (certain data bases needed specificity, e.g. 'Humans only' studies). Search terms included family-centered, family-based, interventions, strategies, programmes, intimate partner violence, gender-based violence, partner violence, domestic violence and community-based.

All publications that focused on family-centred interventions aimed at IPV were included. Articles were searched for within a 10 year span to date of the study being done (2005-2015) and in English. A 10 year span was decided upon in order to elicit latest trends and interventions used at the family level for IPV reduction.

The search protocol was developed using the PICOS framework for systematic reviews (Green, Higgins, Alderson, Clarke, Mulrow, & Oxman, 2008), specifically: i) Population: family members affected by IPV; ii) Intervention: interventions aimed at reducing IPV and its effects, but including more than one family member in the intervention; iii) Context: interventions that were community-based, offered via NGOs and primary health care (as these could ensure programmes to be taken to scale); iv) Outcomes: based on the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation or Maintenance) of the intervention; and v) Study Design: Search was not limited to a specific study design but the studies however had to report on an intervention including process data. Process data refers to the perceptions and actions regarding intervention implementation and its influence on the overall result of the intervention (Abildgaard, Saksvik, & Nielsen, 2016).

The RE-AIM framework assists to facilitate development, delivery and evaluation of health interventions according to five elements, namely: i.) Reach – which refers to which target population the intervention has reached and whether the intervention was used on the intended target population, ii.) Effectiveness – refers to the intervention having achieved its objectives/outcomes, iii.) Adoption – refers to target staff or organisation having adopted the intervention, iv.) Implementation – refers to consistency and adaption of intervention protocol to practice, v.) Maintenance – refers to intervention effects on participants over time (Matthews, Kirk, MacMillan & Mutrie, 2013).

Exclusion criteria included protocols, interventions focused only on one individual hence not inclusive of the family, case studies, interventions not aimed at IPV, systematic reviews, reviews, and also studies which had not reported on interventions inclusive of process data. Process data is vital, as these help inform future interventions but also to replicate effective complex interventions. In order to replicate but also create ease in knowledge translation of key intervention features, procedural details such as intervention implementation, delivery, how the intervention operated within its setting, specific mechanisms of change within the intervention initiating desired outcomes, need to be identified (Frykman, 2017; Sutcliffe, Thomas, Stokes, Hinds, & Bangpan, 2015). As Sutcliffe et al. (2015) elaborate, having these details outlined, aids in identifying what works? Where does it work? And for whom does it work? It is also for this reason, RE-AIM had been selected not only as an appraisal tool but for framing the data extraction as well, as this will bring forth those key intervention features.

DATA EXTRACTION AND QUALITY APPRAISAL

Data relating to study characteristics (such as country of study, study design, and the elements of RE-AIM) and findings were extracted and tabulated and performed by one reviewer (JR) and reviewed by the second reviewer (NR). Inclusion and exclusion criteria were used to clarify differences of opinion. The RE-AIM Framework evaluation (adapted from Blackman et al., 2013; Glasgow 1999; Glasgow, McKay, Piette & Reynolds, 2001) was used to evaluate the interventions fitting the selection criteria as illustrated in Table 1.

Table 1. RE-AIM Framework evaluation – Appraisal sheet (Adapted from Glasgow 1999, 2001 and Blackman et al. 2013)

RE-AIM Dimensions	Questions	Scoring
REACH	1. Indicate who the program is intended for (Inclusion and exclusion criteria)? 2. Report on the representativeness of the target population? 3. Report on participation rate?	Y= 1 / N=0 Y=1 / N=0 Y=1 / N=0
Effectiveness	4. The program achieves the intended objectives? 5. Report on the limitations of the intervention? 6. Reports on at least one outcome of the intervention? 7. Reports on attrition?	Y=1 / N=0 Y=1 / N=0 Y=1 / N=0 Y=1 / N=0
Adoption	8. Is the setting clearly described? 9. Report on the adoption of the intervention by the participants / organization? 10. Reports on who delivered the program?	Y=1 / N=0 Y=1 / N= 0 Y=1 / N=0
Implementation	11. Describes duration and frequency of the intervention? 12. Has the staff / participants of the organisation / intervention been involved in delivering the program? 13. Reports on intended and delivered interventions?	Y = 1 / N=0 Y = 1 / N=0 Y=1 / N=0
Maintenance	14. Report on long term effects of the intervention (after 6 months)? 15. Report on the indicators used for intervention follow-up?	Y=1 / N=0 Y=1 / N=0

RESULTS

The results as shown in Figure 1, show a total of 18 038 search hits found via the electronic databases through the various search terms. After duplicates were removed and article titles screened, 25 abstracts were retrieved. A further 18 articles were removed due to studies not fitting selection criteria as they were either reviews, case studies or only directed the intervention at one member of the family. Six articles had met the desired score of 67%-100% as per methodological quality as seen in Table 2, which were scored according to the questions in Table 1. The data extraction of the six articles is shown in Table 3.

Figure 1. Flow diagram of results process

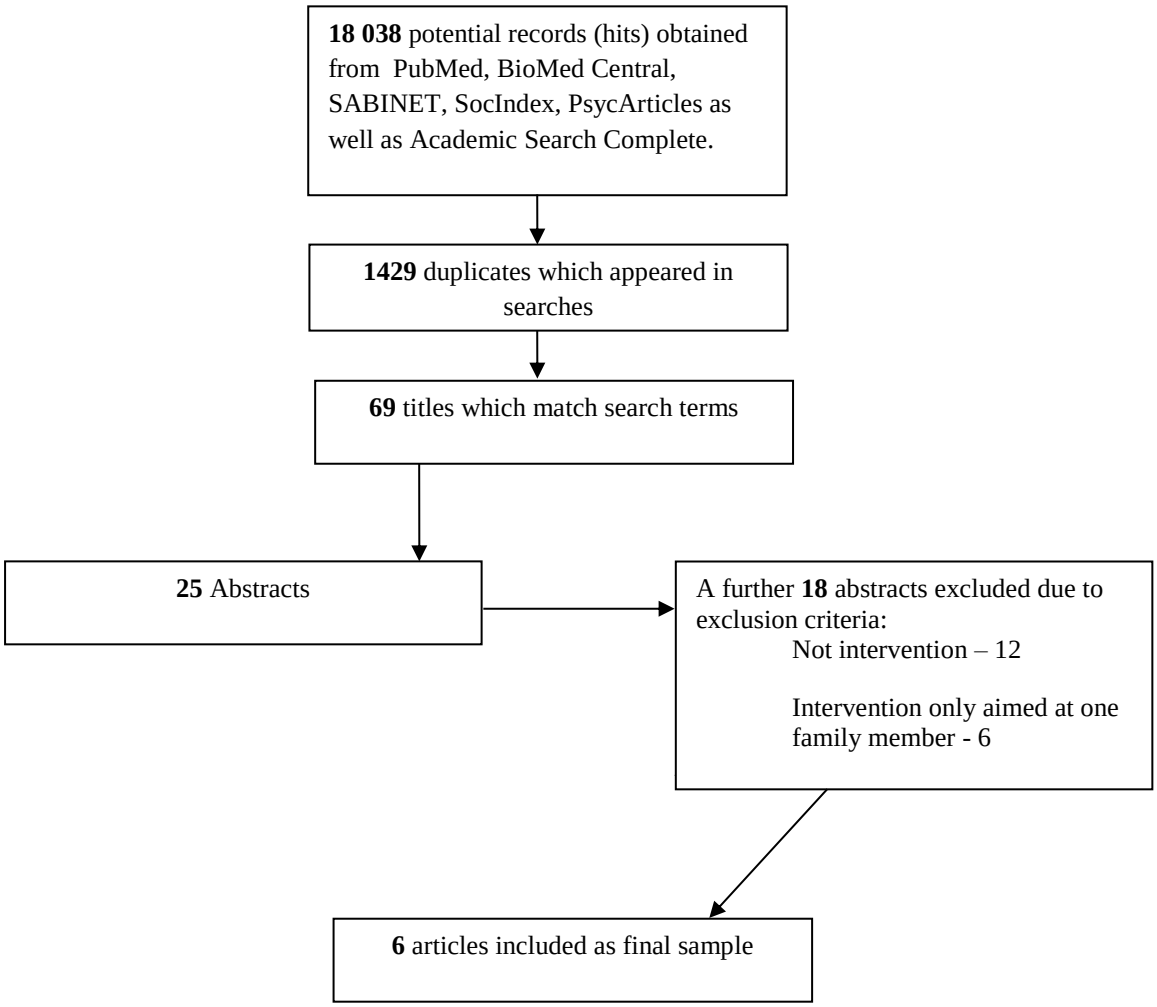

Table 2. Scoring sheet of selected abstracts according to rated questions in Table 1

Author	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Score
Becker, Mathis, Mueller, Issari, & Atta (2008)	1	1	1	1	1	1	1	1	0	1	1	0	0	1	1	80%
Ermentrout, Rizo & Macy (2014)	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	87%
Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu (2007)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100%
Graham-Bermann & Miller (2015)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100%
Grip, Alqmist, & Broberg (2012)	1	1	1	1	0	1	1	0	1	1	1	0	1	1	1	80%
Kan & Feinberg (2015)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100%
McWhirter (2011)	1	1	1	0	0	1	0	1	1	1	1	0	0	0	0	53%

REACH

Of the interventions, 5 were implemented in the USA (Becker, Mathis, Mueller, Issari & Atta, 2008, Ermentrout, Rizo & Macy, 2014; Graham-Bermann, Lynch, Banyard, DeVoe & Halabu, 2007; Graham-Bermann & Miller-Graff, 2015; Kan & Feinberg, 2015), and 1 in Sweden (Grip, Almqvist & Broberg, 2012). Interventions were directed at a diverse group of participants who had either volunteered (Graham-Bermann, et al., 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012, Kan & Feinberg, 2015) or been court mandated to participate (Becker, Mathis, Mueller, Issari & Atta, 2008; Ermentrout, Rizo & Macy, 2014). Four out of the six interventions were directed at parent-child dyads (Ermentrout, Rizo & Macy, 2014; Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012), one at pre-natal couples (Kan & Feinberg, 2015), and one incorporated two parents and child / ren (Becker, et al, 2008). The majority of participants completed most of the intervention sessions (e.g. 7 out of 8 or 10 out 12). Most of the interventions involved participants from low-socio economic circumstances. The interventions were conducted largely with white families, with only two interventions involving African Americans (Ermentrout, Rizo & Macy, 2014) or multi-ethnic families (Becker, et al, 2008).

EFFECTIVENESS

The interventions aimed to assist families to reduce violence and minimize IPV effects, such as depression in parents and behavioural misconduct in children. Intervention themes included conflict resolution and communication skills, with four out of the six interventions including knowledge and awareness raising of family violence (Becker, et al, 2008; Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012). Safety planning had been included in three of the six studies (Ermentrout, Rizo, & Macy, 2014; Grip, Almqvist & Broberg, 2012; Graham-Bermann & Miller-Graff, 2015). All interventions stated that their aims were achieved which included improved family functioning, behavioural outcomes, and psychological well-being, even though one intervention only got through 95% of their program content due to time constraints (Kan & Feinberg, 2015). Limitations noted were issues specific to the IPV population, which included custody battles which greatly affected child participant attrition (Ermentrout, Rizo & Macy, 2014; Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015), loss of housing or moving (Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015); and inconsistent contact information (Becker, et al, 2008; Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015), all of which created challenges in sample attrition, session planning and rapport building.

ADOPTION

The intervention settings were described as community-based with only two interventions specifically identifying the community (Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015). Recruitment occurred through the courts or health care settings (hospitals and clinics). The interventions were well-received with improvements seen in the parent-child interaction, co-parenting, decreased psychological distress in adults, and improved conduct in children (diminished aggression and delinquency) (Graham-Bermann, et al, 2007; Grip, Almqvist & Broberg, 2012). Interventions were facilitated by clinicians with family violence training who were recruited specifically for the program. Five of the six interventions were at the time of this study already fully functioning community-based interventions (Becker, et al, 2008; Ermentrout, Rizo & Macy, 2014; Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012).

IMPLEMENTATION

Only one study indicated the time allocation for the sessions, which ranged from 8 to 12 sessions, with sessions being $2\frac{1}{2}$ hours for adults and children (Ermentrout, Rizo, & Macy, 2014). The other studies did not indicate the session time for child participation if sessions were not scheduled for the same day.

Organisation members were active in the training of facilitators and in conducting post-assessment. Most of the interventions held parent and child groups separately, though concurrently, with similar session themes; except parent groups which included parenting skills or parenthood. This is to say the family may be in one intervention, although the intervention may be implemented with the entire family in one setting or family members in separate settings as arranged by age or other characteristics (i.e. children with children; perpetrators with perpetrators), but all received similar session content. One study addressed parenthood transition, as the target sample was pre-natal couples (Kan & Feinberg, 2015). The interventions focused on family violence education, beliefs and attitudes of family violence; emotional affect, communication; conflict management, decision-making, and focus on the self. Only one study addressed gender stereotypes (Becker, et al, 2008).

MAINTENANCE

Only four out of the six interventions clearly indicated post-intervention follow-up (Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist, & Broberg, 2012; Kan & Feinberg, 2015). The remaining two studies either indicated that a follow-up was done, but did not state when exactly it occurred (either soon after intervention had ended or six months or later) (Ermentrout, Rizo, & Macy, 2014); or only occurred on the last day of the intervention, not stating long term follow-up thereafter (Becker, et al, 2008). Follow-up ranged from six months to a year post-intervention (Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012; Kan & Feinberg, 2015).

Indicators used for follow-up assessment included positive parenting practices (improvements in communication and the parent-child relationship) and child conduct. For parents, three of the six interventions used interviews and recorded observations to monitor program efficacy (Ermentrout, Rizo & Macy, 2014; Grip, Almqvist & Broberg, 2012; Kan & Feinberg, 2015. Questionnaire assessments were used in four of the six interventions and included Beck's Depression Inventory; The Anxiety and Parental Child Rearing Styles Scales; and checklists which used rating scales to measure improvements around trauma symptoms, psychological outcomes, parenting practices, attitudes about IPV, as well as behaviour (Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012; Becker, et al, 2008). Children's outcomes were assessed through interviews with children (Ermentrout, Rizo & Macy, 2014), interviews with parents (Grip, Almqvist & Broberg, 2012; Kan & Feinberg, 2015), and using questionnaire assessments specifically the Child Behaviour Checklist (Graham-Bermann, et al, 2007; Becker, et al, 2008).

Five interventions reported sustained outcomes at follow-up (Ermentrout, Rizo & Macy, 2014; Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Grip, Almqvist & Broberg, 2012; Kan & Feinberg, 2015). Three of the six studies indicated sustained positive outcomes from eight months to one year post-intervention, namely reduced IPV; reduced trauma symptoms of mothers, reduced problem child behaviours, and increased child pro-social activities (Graham-Bermann, Lynch, Banyard, DeVoe & Halabu, 2007; Graham-Bermann & Miller-Graff, 2015; Kan & Feinberg, 2015). Only one of the six interventions showed outcomes not sustained at one-year post-intervention follow-up, but which was attributed to screening not being done at baseline for pre-existing disorders, which may have needed an intense, individualised therapeutic process (Grip, Almqvist & Broberg, 2012).

Table 3: Data extraction table of final studies included

Author	Ermentrout, Rizo & Macy (2014)	Grip, Almqvist & Broberg (2012)	Graham-Berman & Miller-Graff (2015)	Graham-Bermann, Lynch, Banyard, DeVoe, & Halabu (2007)	Kan & Feinberg (2015)	Becker, Mathis, Mueller, Issari, & Atta (2008)
Study design	Multi-method qualitative design	A repeated-measure design without comparison group.	Randomised-control Trial (RCT)	Randomised-control Trial (RCT)	Randomised-control Trial (RCT)	Not clear
Country	USA	Sweden	USA	USA	USA	USA (Hawaii)
Reach	Of the current follow-up study, 8 were child participants (demographics not collected) 18 adult participants (62.50% Black/African American) M=2.25 children, , and 7 staff participants (all White, 85.71% female).	Mother-child dyads were sought with 34 mothers and 46 children present at pre-assessment, 23 mothers and 31 children present at post assessment and 17 mothers and 24 children present for follow-up. Inclusion criteria: 1.) help was sought for mother and child at the unit, 2.) reports of physical, psychological or sexual violence.	Women participants were 33 years old (SD 5.29), largely 57% White, Monthly income varied considerably and was generally low (M $1,366, SD $1,315). The women's children ranged in age from 6–12 years (M 8.49, SD 2.16).	Children ranged in age from 6 to 12 years (M 8.49, SD 2.16). There were 110 boys and 111 girls. Child ethnicity was largely 52% Caucasian. Mothers' mean age was 33.10 years (SD 5.29 years), with 57% Caucasian. . Monthly income varied (M $1,366, SD $1,315).	Participants were 169 heterosexual couples. At baseline, 91 % of mothers and 90 % of fathers were Non-Hispanic White. Median annual family income was $65,000.00 (SD = $34, 372.79). Attendance ranged from 0 to 8 sessions.	A sample size of 106 children (37 boys, 69 girls) between the ages of 3 and 17 (M = 8.64, SD = 3.72). Ethnically, 52.8% identified as multi-ethnic. Of the 106 participating parents, 104 were mothers (98.1%). The majority of families participating in the program had an annual income of less than $13,000.
Efficacy	The study aimed to test the feasibility of a child program concurrent with the Mothers Overcoming Violence Through Education and Empowerment (MOVE) program. Attrition showed 33% for children attended 8 or more sessions.	The intervention had achieved its aim in reducing behavioural problems and social impairment. Limitations include no comparison group and using the mother only as an adult informant. Attrition was reported as being high with no percentage given.	The aim was to assess intervention efficacy for women exposed to IPV and was achieved. Limitations include the study represented few minorities, frequent moves, loss of housing, custody issues, and lack of consistent contact info.	The overarching aim of the present study were to assess the efficacy of a group intervention for children and their mothers exposed to IPV and to identify factors associated with treatment efficacy. Limitations include loss of housing, custody issues, and	The program aimed to inoculate parenting from the effects of pre-birth IPV which was noted as being met. Limitations included a largely White sample, selection bias, and only focusing of physical IPV through triadic observation. Attrition reported loss of 2	The intervention is noted as meeting its goals in improving child and parent outcomes. Limitations of the intervention were inconsistent information, lack of no-treatment control as well as e report bias. Only 30.1% of the children completed all 12 sessions.

				lack of consistent contact info.	couples before intervention and 37 couples at follow-up.	
Adoption	Private space was used at one of the partner agencies. The groups were co facilitated by a clinician with a master's level and a student intern or volunteer.	The research setting stated to be Swedish communities. Psychiatric assistance was sought through community-based services. Facilitators were 2 female social workers.	The research setting noted to be in the Michigan area. The program is an evidence-based and community-based program. Facilitators were 2 trained co-leaders, or therapists.	The research setting noted to be in the Michigan area. Facilitators were clinical psychology and social work graduates and community mental health providers.	Intervention setting not made clear. The group sessions involved 6–10 couples and were led by a male–female co leader team in order to offer a role model for each partner.	Setting not clear. Facilitators were counselors with a minimum of a high school degree and 1 year experience.
Implementation	The program consists of 12 weekly group sessions, each session lasting two and a half hours. Facilitators were clinicians at master's level. The intervention had been noted as being successfully implemented.	A group program of 15 structured 90-min weekly sessions.	The program is noted as being 10 sessions with mothers and their children attending 7 out of the 10 on average. Duration of each session is not given. The program seems have its own group facilitators recruited by the organisations running the community-based intervention.	The program is noted as being 10 sessions with mothers and their children attending 7 out of the 10 on average. Duration of each session is not given. The program seems have its own group facilitators recruited by the University of Michigan.	There were 8 sessions of which an average of 5 was attended. Male - female co leaders were recruited as facilitators	The curriculum was 12 weekly session run parallel for all groups but varied on age-appropriate topics.
Maintenance	Follow up period not clear. Results show improved family functioning. Parents able to communicate effectively and children participating in pro-social activities and reporting better emotion management. Indicators included	Post assessment was 6 months with follow up sessions conducted 1 year post assessment. Outcomes were not sustained at 1yr follow-up attributed to pre-existing disorders. Indicators included general functioning and relationship to the perpetrator.	Post assessment occurred at 10 weeks with follow-up conducted 8 months post intervention. Indicators used: The Beck Depression Inventory, the Anxiety and Parental Child rearing Styles Scales. Results show reduced depression and	Post assessment conducted after 10 weeks and follow-up conducted 8 months post intervention. Indicators used: The Conflict Tactics Scale, the Attitudes about Family Violence Scale and the Child behavior Checklist. Results show children in the	Follow-up was conducted 4-8 months post-natal using questionnaires (Time 2), home-based interviews, and video recorded interactions at 13 months post-natal (Time 3). Results show intervention families experiencing no significant associations	Post-intervention assessment occurred on the last session of the program. No long term follow up (6 months +) reported. Results show decreased child psychopathology and improved parenting practices. Indicators were program participation, DV

program satisfaction and program efficacy.	Additionally, the Strength and Difficulties Questionnaire (SDQ) and Impact of Event Scale (IES) were used to assess parents as well as the mother's trauma symptoms.	improved parenting, and improved child behavioural outcomes.	CM [child-plus-mother-] condition continued to make significant improvement in externalising problems relative to the CO [child only] condition.	between IPV and parenting over time.	knowledge and awareness, behaviour control (Child behaviour checklist), parenting practices, and appropriate coping skills.

DISCUSSION

Most of the interventions targeted the mother-child dyad, with the parent-child dyad sought after for engaging with positive or negative experiences within the family. The importance of the parents' relationship as well as the parent-child relationship may be understood within the relational connections considered in the spill over hypothesis. The hypothesis indicates that if one part of the family system (e.g. the parents) experiences discord or conflict, it may affect the other parts of the family system (e.g. the parent-child relationship) (Levendosky, Leahy, Bogat, Davidson, & Von Eye, 2006). Mother-child dyads were found to more notably display the parent-child relationship whether indicating positive or negative child outcomes (Renner & Boel-Studt, 2013).

The intervention participants completed most of the intervention sessions, which is encouraging as high-risk families often show low retention rates in intervention programs (Pereira, D'Affonseca & Williams, 2013). However, the interventions in this review may not have been sufficiently diverse, with four out of the six interventions incorporating a majority white sample, despite the high IPV risk reported amongst black populations, with women located in the African region reported to bear the greatest risk for being killed by an intimate partner or family member (Capaldi, Knoble, Shortt, & Kim, 2012; Cho, 2012; Langhinrichsen-Rohling, Selwyn, & Rohling, 2012; UNODC, 2018). IPV interventions in the United States have generally focused on the victim or perpetrator have not only shown short term success, but inadvertently also excluded ethnicities such as Hispanics, African Americans and Asians (Gillum, 2008; Sumter, 2006). These ethnicities are noted as being group-centered and would turn to their community (e.g. church) or family when in need (Gillum, 2008; Sumter, 2006).

Many of the reviewed interventions were implemented at community level. Recruitment was mainly done from health care facilities such as clinics or hospitals, which is a common form of recruitment within IPV research (El-Khorazaty, et al, 2007). Only two studies however stated a recruitment criterion; these included a mother and child/ren (aged 6 to 12 years) affected by violence, mothers court-mandated to attend and identified as the primary caregiver, and those affected by IPV but not the primary abuser (Ermentrout, Rizo, & Macy, 2014; Graham-Bermann, et al, 2007). Clearly defining eligibility criteria for participants is vital, as selecting the right participants for an intervention affects attrition, outcome event rates, and external validity, while clear reporting of such criteria aids in estimating cost per person as well as identifying strategies for hard-to-reach populations (Cooke & Jones, 2017; Townsley, Selby, & Sui, 2005; Uchino, Billheimer, & Cramer, 2001).

The reviewed interventions involved themes commonly addressed within family violence (Tolan et al., 2006). Only one intervention addressed gender (Becker, et al, 2008), contrasting the body of knowledge which shows gender as being integral to interventions at individual or community level (Whitaker, et al, 2006). This may reflect a growing trend in the USA towards what is reported as a gender 'neutral' framework for understanding IPV where interest groups strive for greater recognition of female perpetration and male victimisation cases of IPV (Reed, Raj, Miller, & Silverman, 2010). This trend is however criticised as women and girls are still at greatest risk of being killed or injured by an intimate partner (Reed, Raj, Miller, & Silverman, 2010). Disregarding gender inequality within IPV is however a missed opportunity to explore deeply entrenched gender-power abuses occurring in the lives of women and girls (Reed, Raj, Miller, & Silverman, 2010). This gender inequality and 'lethal victimisation' is aptly discussed in a recent report by the United Nations Office on Drugs and Crime (UNODC) (2018, pg. 11). Though women and girls constitute a smaller share of the global homicide rates, for every 1 out of 5 homicides committed by intimate partners or family members, women and girls comprise the majority of those deaths (36 per cent male versus 64 per cent female victims) and are still majority victims of exclusively intimate partner related homicide (82 per cent female victims versus 18 per cent male victims) (UNODC, 2018).

In this study, interventions ranged from 8 to 12 sessions, being $2\frac{1}{2}$ hours for adults and children (Ermentrout, Rizo & Macy, 2014). Generally, there is no prescribed time duration for interventions, due to flexible implementation regarding IPV (Eckhardt, Murphy, Whitaker, Sprunger, Dykstra &

Woodard, 2013). Though not time prescriptive, intervention facilitators would prescribe that at least one risk topic is thoroughly covered in a session, mindful of time constraints and the comfort of participants in engaging the risk topics set out for the session (Katz, Blake, Milligan, Sharps, White, Rodan, Rossis, & Murray, 2008).

The current findings show that interventions indicating long term follow-up, such as at eight months to 1-year post intervention sustained long-term positive outcomes (Graham-Bermann, et al, 2007; Graham-Bermann & Miller-Graff, 2015; Kan & Feinberg, 2015). These positive outcomes included reduced IPV, reduced trauma symptoms of mothers, reduced problem child behaviours and increased child pro-social activities (Graham-Bermann, Lynch, Banyard, DeVoe & Halabu, 2007; Graham-Bermann & Miller-Graff, 2015; Kan & Feinberg, 2015). The research literature supports the notion that family-centered approaches do facilitate long term success especially in comparison to batterer programs (Gillum, 2008; Stover, Meadows, & Kaufman, 2009; Sumter, 2006).

In summary, the current findings show commonalities between the interventions reviewed, in that they all used broad reaching recruitment techniques, required facilitators to act as role models in addition to facilitating the sessions and providing educational material, and used a randomised control trial study design to assess impact.

STRENGTHS AND LIMITATIONS

The study may be the first systematic review of interventions that focus on the family in addressing IPV. Additionally, the study also aimed to investigate the effectiveness of a family-centred approach in reducing IPV found positive outcomes, such as a reduction in IPV, trauma symptoms of mothers, and problematic child behaviours. The study utilised a rigorous process to identify strong methodological studies, used more than one reviewer to facilitate the process; and used broad terms to support the scope of the search.

However, the identified interventions reported largely on populations in high income countries and majority white families; thus, limiting the relevance of the findings to other demographics and settings. These limitations may also highlight the lack in reporting on intervention outcome and process information in low income settings.

Finally, it is noted that none of the interventions in this study followed a clear format in reporting and presenting intervention information and results, making it challenging in consistent comparison. This systematic review presents the RE-AIM framework as a structure to report intervention information in such a way as to allow easy translation of evidence.

CONCLUSION

Family-centered interventions focused towards IPV reduction yielded positive results not only on an individual level but also at a family systemic level in improving parent-child interaction. This merits the possibility that family-centered interventions addressing IPV can maintain long term positive outcomes and can be adopted and sustained at community level.

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