INJURY EPIDEMIOLOGY (A ROWHANI-RAHBAR, SECTION EDITOR)



Trauma- and Violence-Informed Care: Orienting Intimate Partner Violence Interventions to Equity

C. Nadine Wathen¹ · Tara Mantler²

Accepted: 15 September 2022 © The Author(s) 2022

Abstract

Purposeof Review Intimate partner violence (IPV) is a complex traumatic experience that often co-occurs, or is causally linked, with other forms of structural violence and oppression. However, few IPV interventions integrate this social-ecological perspective. We examine trauma- and violence-informed care (TVIC) in the context of existing IPV interventions as an explicitly equity-oriented approach to IPV prevention and response.

Recent Findings Systematic reviews of IPV interventions along the public health prevention spectrum show mixed findings, with those with a theoretically grounded, structural approach that integrates a trauma lens more likely to show benefit. **Summary** TVIC, embedded in survivor-centered protocols with an explicit theory of change, is emerging as an equitypromoting approach underpinning IPV intervention. Explicit attention to structural violence and the complexity of IPV, systems and sites of intervention, and survivors' diverse and intersectional lived experiences has significant potential to transform policy and practice.

Keywords Intimate partner violence \cdot Structural violence \cdot Health equity \cdot Trauma-informed practice \cdot Trauma- and violence-informed care \cdot Intervention research

Introduction

Intimate partner violence (IPV), defined as "behaviour within an intimate relationship that causes or has the potential to cause physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviours" (World Health Organization (WHO)) [1], is a major public health crisis [2], with global data from 2018 indicating that 27% of women experience IPV in their lifetime, and 13% in the past year [3•]. IPV, and responses to it, has been made significantly worse by the COVID-19 pandemic [4, 5] with multiple pre- and co-existing pandemics coming together to further

This article is part of the Topical Collection on Injury Epidemiology

C. Nadine Wathen nwathen@uwo.ca

¹ Arthur Labatt Family School of Nursing, Western University, FIMS & Nursing Building, Room 2307, London, ON N6A 5B9, Canada

² School of Health Studies, Western University, London, Canada exacerbate both prevalence and incidence of IPV, and the ability to balance adequate service responses for survivors with pandemic restrictions intended to curb disease spread [6]. The health and social consequences of IPV on survivors, especially women, and on families and society are well-documented, including worse physical and mental health [7], increased health risk behaviors [8, 9, 10], greater harm to children exposed to IPV [11, 12], and significant costs to health and social services, and entire economies [13•, 14].

Conceptualizing IPV

The past 25 years have seen a significant increase in development and evaluation of interventions for those experiencing IPV, and innovations in measurement and framing of IPV are providing a much-enhanced picture of the epidemiology of this complex social issue. The Violence Prevention Alliance of the WHO promotes the use of an ecological model within the public health approach [15•, 16, 17], based on evidence that no single factor can explain why some people or groups are at higher risk of violence and its consequences, while others are more protected from it. This framework views IPV as the outcome of interactions among many factors and structures at individual, relationship, community, and societal levels, which create both the conditions for IPV, and potential intervention sites across the prevention spectrum. Importantly, this structural approach means that these conditions are viewed as arising from, and rooted in, the values, attitudes, and beliefs that we, collectively, have internalized, and that are embedded in our organizations and communities and reflected and reified by society (Fig. 1).

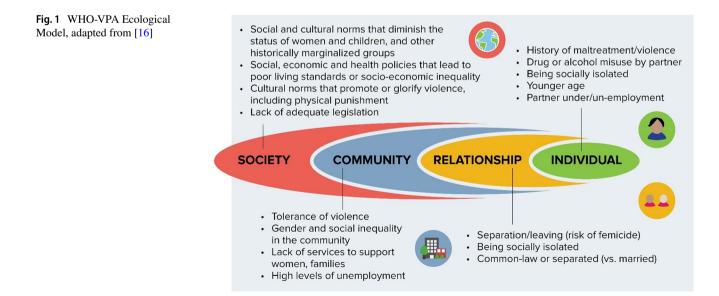
Similarly, recent advances in measurement of IPV indicate that focusing on the more severe forms of violence rather than less severe, situational, and often bi-directional aggressive behaviors [18], while also attending to the context in which violence occurs, avoids what has been termed the "de-gendering" of IPV [19]. Use of measures that recognize IPV as gendered and patterned $[20\bullet, 21\bullet]$ has helped us connect these experiences to related causes and consequences across the ecological framework and support the development of interventions that account for the complexities of people's personal and social lives.

Bringing a Trauma Lens: Trauma-Informed Practice

Trauma is both the experience of and response to an overwhelmingly negative event or series of events, from wars and disasters to accidents and loss (e.g., of a parent) [22]. Events become traumatic due to complex interactions among someone's neurobiology (affecting, for example, their ability to self-regulate), and their previous experiences of trauma and violence, including the role (or not) of supportive individuals and communities in self-regulation and recovery. Trauma can change brain and nervous system functioning, and while these neurobiological changes may not be permanent, they can be long-lasting, and impact behavior [23, 24]. For example, adverse childhood experiences (ACEs), especially maltreatment, neglect, and experiencing IPV in the family, can have long-term effects including stress, anxiety, depression, risky behaviors, and substance misuse [25, 26, 27]. Complex trauma can also impact child development, leading to internalizing, externalizing, and attachment disorders [28], which can persist into adulthood. Experiencing violence can change not only neurobiological patterns, but also genetic structures [29, 30•], leading to impacts on health and well-being [31]. Thus, exposure to trauma and violence can have long-term effects on health and behavior, whether trauma is ongoing or in the past, individual or collective [32, 33•]. In the context of IPV, trauma can be acute (resulting from a single event) or more likely, complex and chronic.

When serving IPV survivors, providers, organizations, and systems lacking understanding of its complex and lasting impacts miss opportunities to provide effective services, and risk causing further harm. This growing understanding has led to an integration of trauma awareness into services for IPV survivors. Work from the US Substance Abuse and Mental Health Administration [34] specific to women, violence, and substance use helped establish the concept of "trauma-informed practice" (TIP). TIP aims to create safety for people seeking care by understanding the effects of trauma, and its close links to health and behavior. Unlike trauma-specific care, it is not about eliciting or treating people's trauma histories but about creating safe spaces that limit the potential for further harm in care interactions [22, 35, 36, 37, 38].

However, with some exceptions that take an explicitly organizational approach [39, 40], the focus of TIP is individual, which tends to reinforce the idea that the effects of trauma are located in the individual. Such a focus often leads to strategies to identify "what's wrong" with a person, so as



to avoid doing additional harm, and intervention is located in an individual provider, not a team, organization, or system. By extension, interventions then focus on the individual and their trauma experiences, rather than the factors that shape and even enable those experiences and present barriers to prevention and care, making it more difficult to meet survivors' complex needs [41, 42]. For example, a recent review of measures in this area found that few TIP approaches truly address structural forms of violence, including stigmatizing and discriminatory beliefs and practices [43•].

An Equity Perspective: from TIP to TVIC

Approaches to addressing violence in health and social care are beginning to evolve from this narrow focus on interventions for/by individuals to a broader understanding of IPV and other forms of gender-based violence as pervasive social problems embedded in structural inequities. This means explicitly linking interpersonal violence with the broader conditions of people's lives, including their access to social determinants of health, and their experiences of various intersecting forms of structural violence, including policyinduced violence such as systemic poverty and homelessness (due, for example, to minimum wage legislation and housing policies) and socially induced violence, including racism and other forms of discrimination [44, 45, 46]. As the WHO's ecological framework highlights, sexism, misogyny, and gender norms are specific root causes of IPV. Seen intersectionally, it is not surprising that worldwide data indicate that specific groups (women, especially those who are racialized, Indigenous, disabled, and/or poor) are over-represented in both prevalence data, and bear the greatest health and social impacts of violence, including barriers to services, income supports, and safe housing [3•].

Trauma- and violence-informed care (TVIC) expands the concept of TIP to account for these intersecting impacts of systemic and interpersonal violence and structural inequities on a person's life. The four principles of TVIC are as follows: (1) understanding and awareness of trauma and violence, especially structural violence, and their impacts on people's lives; (2) prioritizing people's (including providers') physical, emotional, and cultural safety; (3) promoting person-centered connection, collaboration, and choice; and (4) finding and building on people's existing strengths, and supporting their skills and capacity development [47••]. This shift is important as it emphasizes both historical and ongoing violence and their traumatic impacts and focuses on a person's experiences of past and current violence such that problems are seen as residing in both their psychological state and their social circumstances $[47 \bullet, 48]$. TVIC also attends to systemic and institutional violence, including policies and practices that perpetuate harm to satisfy the needs of the system, rather than those of the person (for example, people often have to formally disclose IPV, and then re-tell their experiences to multiple care providers to receive services). TVIC also prioritizes the responsibility of organizations and providers, supported by resources, policies, and systems, to shift services at the point of care, rather than people having to work around services and their arcane rules to get what they need. The primary question examined in this critical narrative review, therefore, was as follows: what interventions are effective in preventing IPV and its impacts, and how can bringing an equity-oriented, traumaand violence-informed lens enhance intervention research and practice?

Method

Following the method outlined in Scott-Storey et al. [49] examining a related and similarly complex topic (men's experiences of IPV), we undertook a critical narrative literature review of the current state of knowledge on how equityoriented concepts, especially TIP and more specifically TVIC, have been applied in research and practice interventions for IPV. Knowing from previous reviews [43•] that the existing evidence on TVIC and IPV is heterogenous and diffuse, we did not use traditional systematic review methods, but rather conducted a focused search (in terms of concepts) but in a relatively broad range of literature and evidence sources. We looked for peer-reviewed qualitative, quantitative, and mixed-method articles, theoretical papers, and high-quality gray literature (e.g., government documents, research institute reports) across multiple databases up to July 2022 (Cochrane, Campbell, MEDLINE via PubMed, Scopus for a consolidated search, Embase, and PsycINFO; Appendix), with a focus on systematic and other reviews. We then ran a focused Google Scholar search to identify additional key items and relevant gray literature, including government documents. Literature was limited to English and had a beginning date of 2017, unless the most recent systematic review preceded this date. Key search terms included "intimate partner violence" and "domestic violence" combined in various ways with "trauma-informed" and "traumaand violence-informed." In total, these searches identified 227 unique articles with varying degrees of relevance to our core topics, i.e., they were principally about providing care or services to IPV survivors and included the concept of trauma (and violence)-informed care/practice, with the addition of the violence concept meaning the approach explicitly attended to forms of structural inequities, including sexism, racism, ableism, and other forms of discrimination and/or stigma. Additional reference chaining identified a key sub-set of studies that include TVIC as a component of a larger IPV-focused or IPV-related complex intervention. These results were situated in a high-level summary of the latest evidence, drawn from recent (i.e., those most recently available in each intervention domain) systematic reviews of IPV interventions in various domains. Using a critical perspective to evaluate and synthesize the literature, we do not present quantitative details about these articles.

Findings

The review findings are presented as a narrative synthesis of evidence according to specific types of interventions for preventing occurrence, recurrence, or sequelae of IPV. Findings from systematic reviews are prioritized, with general effectiveness summarized first, followed by a discussion of whether/how TIP or TVIC components have been addressed for each intervention domain.

Identifying IPV

Evidence-based guidelines generally do not advocate routine, universal IPV screening, with multiple trials showing that while screening can increase IPV disclosures, these alone are not linked to additional referral to services, or benefits to those who disclose [50•]. Screening approaches, which rely on structured questions asked at intake or even by computerized assessment, are not trauma- and violenceinformed [51]. Rather, most guidelines emphasize asking about IPV using a case-finding approach grounded in knowledge of clinical indicators and risk factors [52]. We have recently argued that adding explicit attention to TVIC principles to the WHO's LIVES (Listen, Inquire, Validate, Ensure Safety, Support) Protocol [52] meets the criteria for an evidence-based, trauma- and violence-informed approach to IPV identification and referral [51].

Counseling Interventions

Once IPV survivors are identified, there is some evidence that brief counseling interventions to provide immediate support and stabilization for women experiencing IPV can be effective. A systematic review and meta-analysis of 21 studies shows a large overall effect size of 1.02 (calculated by the authors as a 34% benefit of engaging in intervention, across studies), especially in mental health and life functioning outcomes, with moderate effects on safety, violence, and substance use outcomes. These results were largely driven by individual-level interventions, especially cognitivebehavioral therapy (CBT) tailored for IPV survivors, and by interventions delivered one-on-one versus in groups. Of note, interventions specifically adapted to address IPV experiences showed the greatest benefit, whether delivered in shelters, or in the community [53•]. These findings, while still requiring replication and follow-up studies, reinforce the need for tailoring to both the IPV context and women's unique experiences; however, from a TVIC and equity perspective, individualized psychological therapy is inaccessible to many survivors, due to out-of-pocket costs, local availability (especially in non-urban areas), and/or wait-lists, and generally does not address structural inequities.

Advocacy-Based Interventions

A Cochrane systematic evidence review [54•] found some trial-level evidence for efficacy of advocacy-based interventions for women using shelters and/or facing greater barriers to services due to more severe violence experiences or socioeconomic marginalization. A more recent scoping review of both qualitative and quantitative studies [55•] examined social support, including advocacy-based interventions, and differentiated those that focused specifically on the individual survivors' needs, from those that included the survivor and their broader social/community network, finding benefits from most interventions in terms of women's mental well-being, while calling for more robust methods. Of note, both reviews highlight the need for interventions that are grounded in theory, an ecological understanding of IPV alongside the intersection of survivor needs and structural factors, and a woman-centered approach to safety that does not assume that leaving a relationship is safer, nor is what all women want. Thus, the interventions identified as most promising in this domain, as with the counseling interventions above, are those that best align with a TVIC approach.

Shelters and Other Forms of Housing

While it is widely recognized that emergency shelters, second stage/transitional, and other forms of safe housing are essential for women and their children at high risk of injury or death due to IPV, systematic reviews [56•, 57] find limited, and relatively low-quality, research evaluating the effectiveness of these services. From an equity/TVIC perspective, the most important consideration in this domain is a system-level approach to making safe and affordable housing available, on a priority basis, to women and children experiencing IPV.

Technology-Mediated Interventions

A systematic review of 25 studies examining technologymediated interventions for IPV found wide variability in types of technology, and focus of intervention, with most designed to support either primary prevention via educational content or identification through screening [58•]. Those focusing on specific outcomes, especially safety, mental health, or use of services/supports, showed the most benefit overall. While simple interventions, such as short scripts, are appealing for their ease of integration into services, this strategy when used alone is not aligned with a TVIC approach [59], nor is asking women to self-screen for IPV on a device. While moderately complex interventions that add standard IPV resources (videos, text messages, and audio) are useful alternatives to print-based resources [60], more complex technology-based interventions that provide tailored, interactive safety and health strategies and needs-based access to real-time supports were the most effective in experimental studies at improving health and safety, and reducing decisional conflict overall, or among specific groups of women [61, 62, 63]. With the efficacy of technology-mediated IPV interventions that are theoretically grounded and woman-centered becoming established for community samples, refinements to meet the needs of women facing intersecting forms of oppression are being developed and scaled [64]. Continued focus on ensuring that TVIC principles are embedded in these interventions to support women's emotional, physical, and cultural safety, and their choice and autonomy, while building on their existing strengths, is crucial to their ongoing effectiveness and utility [62].

Interventions for Couples and Perpetrators

The evidence regarding interventions for couples where IPV is present is generally weak, with systematic reviews indicating high variability in design, few comparative studies of generally lower quality, and mixed results [$65 \cdot , 66, 67$]. A key consideration is ensuring that the intervention does not lead to additional harms to the survivor; thus, studies generally showing some benefit are those in which the violence is situational and/or bi-directional, or in which other related issues, such as substance use, are a key factor. In cases of coercive control/intimate terrorism, couples' therapy is not recommended and, from a TVIC perspective, would not be considered a safe option. Clinically, this is an important consideration, as markers for intimate terrorism are more likely to be present in those seeking services than in broader community samples [$68 \cdot$].

Three recent systematic reviews find mixed results among studies examining interventions for men perpetrating IPV [69•, 70•, 71], with the general finding that higher quality, comparative studies are less likely to demonstrate that group-based interventions (the primary delivery model) reduce IPV. The generally poor methods used in these studies make it difficult to know whether theoretically grounded interventions that disrupt men's conceptions of power and control (e.g., the Duluth model) are more or less successful than cognitive-emotional models that focus on behavior change, anger regulation, etc. As noted in the two realist reviews of these kinds of intervention studies [70•, 71], not enough of them actually define and describe the theoretical mechanism of action to draw firm conclusions.

In the face of a largely inconsistent evidence base, what can a TVIC lens add? More recent studies, as part of an intervention model (e.g., CBT, Duluth), examine how IPV is linked, contextually and sometimes even causally, to the perpetrator's own trauma experiences, and/or their cognitive/emotional processing ability [72–81]. In fact, what emerges from a close reading of this literature is that "trauma-informed" in this context focuses exclusively on how trauma experiences impact psychological processes such as emotion regulation, substance use, and attachment and can be inferred as "causing" perpetration, leading to trauma-specific approaches to healing perpetrators such that they stop using violence. However, this approach to perpetrator intervention has yet to show effectiveness. From a critical, equity-oriented, and traumaand violence-informed stance, this kind of rationale must be approached cautiously, as it reinforces individual-level factors and intervention approaches that may exonerate perpetrators rather than situate their behaviors, and accountability, in the social-ecological framework, where both individual and collective accountability and action are required.

Discussion

What Makes IPV Interventions Successful?

In summary, existing evidence for IPV interventions targeting secondary and tertiary prevention remains heterogenous and generally situated at the individual level of the ecological framework, i.e., supporting survivors in preventing recurrence and/or addressing the specific effects of IPV, or perpetrators or couples in not using violence. IPV interventions shown to be most effective, or indicating promise of effectiveness, tend to be those that understand the complexity of IPV as rooted in factors from across the social ecology, especially the patriarchal norms and practices that enable gendered violence, and acknowledge that these factors intersect, meaning more risk and fewer supports for some, and more resilience and help for others. In a realist review of 60 reviews examining psychosocial IPV interventions, Paphitis and colleagues [82••] focus on mechanisms of intervention, including both the resources provided to survivors, but also the reasoning that underpins the theory of change-i.e., how survivors can reframe their experiences and behaviors to find emotional safety and wellbeing, and freedom from violence. Beginning with the recognition that IPV is a complex phenomenon requiring complex interventions, they analyze existing evidence using a context, mechanisms, and outcomes (CMO) approach, and then integrate their findings with expert input. They reinforce what we see in the above summaries of existing evidence, specifically

that "interventions that are individually adapted, IPV-tailored, and trauma-informed are likely to yield the best results" (p. 22). They further emphasize the importance of community buy-in and partnerships, and culturally safe and appropriate approaches with a deep understanding of the context in which the intervention is delivered. These framing values, a "multilayered" approach to understanding IPV and its diverse effects on health and well-being, combined with the recognition of its co-occurrence with other complex issues (including substance use, infectious diseases, and, importantly, structural violence such as poverty, lack of safe housing, racism, and ableism), support successful implementation and outcomes. A lack of attention to these issues can not only mean less effective and/or ineffective interventions, but can be actively harmful, leading to increased inequities and exclusion of certain groups, erosion of trust in providers and organizations (and therefore less helpseeking), and increased harm for survivors and communities.

An ecological approach also aligns with emerging evidence in primary prevention of IPV, especially in lower income settings, where community-level interventions using complex designs specific to gender roles and family wellbeing are showing promise [83••], as are structural-level interventions [84••] including enhancing women's economic empowerment [85••]. Primary prevention work in higher income settings, which tends to be more individually targeted, shows mixed results for a range of strategies, but some promise for those that include teaching younger people about healthy relationships and social-emotional skills to prevent behaviors linked to later IPV [86•].

As we move to more complex, trauma- and violenceinformed intervention development and evaluation, conceptual clarity is required. A key concern noted above is how the concept of "trauma-informed" is brought into interventions. In those targeting either secondary prevention through work with perpetrators or tertiary prevention through addressing impact of IPV on survivors, there is conceptual slippage from "trauma-informed" to "trauma-specific"—i.e., treating (e.g., through CBT) past or current trauma as the cause/consequence of the violence [87•, 88]. In work with perpetrators, this can elide a structural analysis that grounds their behaviors, and indeed their own trauma experiences, in structural factors. In work with survivors, a focus on individual trauma may lead to interventions that do not account for the multilayering and complexity required for success [41, 42].

An explicit focus on TVIC, which integrates a critical and structural analysis into care principles and practices, is conceptually grounded in a social-ecological understanding of health and well-being and aligns extremely well with the complexity approach to IPV intervention supported by existing evidence and reviewed above $[82^{\bullet,\bullet}, 89^{\bullet}]$. TVIC, as we have constructed and tested it, is a core component of equity-oriented care $[47^{\bullet,\bullet}, 90]$, which is itself showing promise in improving care interactions and health outcomes [91, 92]. Applied in complex IPV interventions, TVIC is a way to ensure provider education and practice are both safe and structurally competent [62, 93, 94, 95]. It is also showing promise in related areas of practice [6].

Implications for Research, Practice, and Policy

As we have seen, interventions that account for complexity across several domains, including recognizing (1) the causes of IPV as interactive across the social ecology, but rooted in gendered norms about power; (2) IPV as an experience with multiple and variable impacts that often co-occurs with other complex health and social problems, both individual and structural; and (3) sites of intervention, whether individual practices, organizations, or communities, as complex adaptive systems [96], are what is needed to advance the field. In sum, people live complex lives, with their well-being often shaped as much (or more) by social and structural factors arising from their intersecting social locations, as from their individual behaviors. When this complexity includes IPV, the effects are also multidimensional, compounding, and complex, and a survivor's access to support is shaped by many of the same factors noted above. From a practice perspective, a key challenge is resourcing and sustaining what can be expensive, multi-component interventions $[82 \bullet \bullet]$.

In policy, a TVIC approach means resourcing IPV programs and services such that they can address complexity and be sustained, ideally by embedding them in relevant existing systems of care. For example, the IPV intervention developed by Jack and colleagues is now embedded in the Nurse-Family Partnership® (NFP) intervention [93, 97]; related resources, funded by a government ministry, support nurse home visiting practice in Canada [98]. Given the international reach of the NFP program, this approach to integration of a TVIC IPV component can serve as a model. The key drivers of such an integration were the NFP's approach to continuous, evidence-based improvement, and the values alignment between NFP's foundational program principles and the TVIC principles, especially that the client (generally a very young woman facing various kinds of marginalization) and child are the center of the intervention, and the nurse develops and sustains a relationship built on trust, respect, choice, and the woman's strengths, while prioritizing her emotional, physical, and cultural safety, including her privacy. The flexibility afforded the nurses as clinical specialists also allows for decisions in the intervention process that prioritize these principles; for example, rather than a formal, structured assessment tool, nurses use a life history timeline that is collaboratively developed with the client, giving her control over the narrative (e.g., what to share, where to start), identifying historical events in her life, for example, early traumas that might shape her current situation, as well as events that contributed to strength and resilience (S. Jack, pers. comm.). However, this kind of approach to adapting existing, and developing new, systemlevel interventions that are trauma- and violence-informed also means upstream attention to the aspects of the social ecology that frame IPV causes and consequences, including anti-discrimination, anti-poverty and affordable housing policies, and accountability for perpetrators throughout the legal, social, and health care systems.

For intervention designers and evaluators/researchers, careful attention to rigourous research design is required, using multi- and mixed-method approaches that can address complexity [99], and outcome measures that properly frame and assess IPV as a gendered and patterned phenomenon, and its impacts as multidimensional, without devolving to IPV recurrence as the sole primary outcome, for example, in evaluations of survivor interventions [19, 20•, 21•]. The field of IPV research has produced many null trials that did not properly account for complexity in their design and implementation, and recent reviews indicate that many of the lessons from these trials go unlearned as these designs are replicated to present day. Specifically, trial designs often exclude "outlier" or otherwise diverse (complex) participants and communities. While including diversity and attending to the roots of structural inequities that perpetuate IPV have been found to increase the unpredictability of results [100], without such attention, existing interventions time and again show limited effectiveness and low acceptability to survivors, and in some cases do more harm than good. Bringing an equity-oriented, trauma- and violenceinformed lens to intervention work overcomes these barriers and creates the space for real change, in both policy and practice, to prevent IPV and its impacts.

This review is an initial examination of how TVIC, with a particular focus on structural forms of violence and the social level of the ecological framework, can enhance our thinking about the design and delivery of IPV interventions. The review was limited by a focus on English language and primarily peer-reviewed publications, and by a paucity of research in some areas. Intervention development and research that integrates more structural elements with a focus on primary prevention is urgently needed; this is especially true in higher income settings, which have lagged behind lower income settings in this regard.

Conclusion

Interventions to prevent and mitigate the effects of IPV must include an understanding of the circumstances of people's lives, and how this, and related forms of violence are rooted in social-structural factors, which intersect across the social ecology. We must acknowledge that structural forms of violence filter down to everyday experiences, including interactions with legal, health, and social services. Viewed this way, people's responses to trauma and violence, including substance use and poor mental health, are predictable consequences of threatening events, which can include their everyday experiences of stigma, discrimination, judgement, and poor or dismissive service. This is especially the case when inequities and system-induced trauma are ongoing. Bringing a trauma- and violence-informed, equity-oriented approach to IPV interventions across the prevention spectrum presents a major evolution in IPV research, practice, and policy.

Appendix. Primary search terms

PubMed

((domestic violence[majr] NOT child abuse[mesh] NOT elder abuse[mesh]) OR "intimate partner violence" OR "partner violence" OR battered women[majr]) AND ("trauma-informed" OR "trauma- and violence-informed").

Scopus

(TITLE-ABS-KEY ("domestic violence") OR TITLE-ABS-KEY ("intimate partner violence") OR TITLE-ABS-KEY ("partner violence") AND TITLE-ABS-KEY ("traumainformed") OR TITLE-ABS-KEY ("trauma- and violenceinformed")) AND (LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2018)) AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re")).

EMBASE (map to subject headings)

- 1. (domestic violence or intimate partner violence or partner violence).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
- 2. limit 1 to yr = "2017 -Current"
- (trauma-informed or trauma and violence informed). mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word]
- 4. 2 and 3

PsycINFO

MAINSUBJECT.EXACT("Trauma-Informed Care") AND MAINSUBJECT.EXACT("Intimate Partner Violence").

Google Scholar

("domestic violence" OR "intimate partner violence") AND ("trauma- and violence-informed").

The terms above were used in each specified database to capture any paper that addressed both IPV and TIP/TVIC. Additional focused searches were conducted in each source for systematic reviews of IPV interventions by combining the IPV indexing term(s) and the keyword "intervention" with the DB-specific indexing term for "systematic review." In the Cochrane and Campbell systematic review databases, we searched for "violence" and reviewed all results for relevance. Inclusion dates for these results were reviewed by hand. For example, for PubMed, the search was:

intimate partner violence[majr] AND systematic review AND intervention.

Funding Nadine Wathen is the Canada Research Chair (Tier 1) in Mobilizing Knowledge on Gender Based Violence, with funding from the Social Sciences and Humanities Research Council of Canada.

Declarations

Conflict of Interest The authors declare no competing interests.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Papers of particular interest, published recently, have been highlighted as:

- Of importance
- •• Of major importance
- 1. World Health Organization/London School of Hygiene and Tropical Medicine. Preventing intimate partner and sexual violence against women: taking action and generating evidence. Geneva: WHO; 2010.
- World Health Organization. Violence against women. Geneva: WHO; 2021 [cited 2022 Jul 4]. Available from: https://www. who.int/news-room/fact-sheets/detail/violence-against-women.
- 3.• Sardinha L, Maheu-Giroux M, Stöckl H, Meyer SR, García-Moreno C. Global, regional, and national prevalence estimates of physical or sexual, or both, intimate partner violence against

🖄 Springer

women in 2018. Lancet. 2022;399(10327):803–13. https://doi. org/10.1016/S0140-6736(21)02664-7. New global data on IPV prevalence.

- 4. UN Women. Measuring the shadow pandemic: violence against women during COVID-19. New York: UN Women; 2021 [cited 2022 Jul 4]. Available from. https://data.unwomen.org/publicatio ns/vaw-rga.
- Leight J. Intimate partner violence against women: a persistent and urgent challenge. Lancet. 2022;399(10327):770–1. https:// doi.org/10.1016/S0140-6736(22)00190-8.
- Mantler T, Wathen CN, Burd C, MacGregor JCD, McLean I, Veenendaal J, et al. Navigating multiple pandemics: a critical analysis of the impact of COVID-19 policy responses on gender-based violence services. Crit Soc Policy. 2022.Online First:1–22. https://doi.org/10.1177/02610183221088461.
- Bacchus LJ, Ranganathan M, Watts C, Devries K. Recent intimate partner violence against women and health: a systematic review and meta-analysis of cohort studies. BMJ Open. 2018;8(7):e019995. https://doi.org/10.1136/bmjop en-2017-019995.
- Bonomi AE, Anderson ML, Reid RJ, Rivara FP, Carrell D, Thompson RS. Medical and psychosocial diagnoses in women with a history of intimate partner violence. Arch Intern Med. 2009;169(18):1692–7. https://doi.org/10.1001/archinternmed. 2009.292.
- Devries KM, Mak JY, Bacchus LJ, Child JC, Falder G, Petzold M, et al. Intimate partner violence and incident depressive symptoms and suicide attempts: a systematic review of longitudinal studies. PLoS Med. 2013;10(5):e1001439. https://doi. org/10.1371/journal.pmed.1001439.
- Devries KM, Child JC, Bacchus LJ, Mak J, Falder G, Graham K, et al. Intimate partner violence victimization and alcohol consumption in women: a systematic review and meta-analysis. Addiction. 2014;109(3):379–91. https://doi.org/10.1111/ add.12393.
- Bair-Merritt MH, Blackstone M, Feudtner C. Physical health outcomes of childhood exposure to intimate partner violence: a systematic review. Pediatrics. 2006;117(2):e278–90. https:// doi.org/10.1542/peds.2005-1473.
- Black T, Fallon B, Nikolova K, Tarshis S, Baird S, Carradine J. Exploring subtypes of children's exposure to intimate partner violence. Child Youth Serv Rev. 2020;118:105375. https://doi. org/10.1016/j.childyouth.2020.105375.
- 13• Duvvury N, Callan A, Carney P, Raghavendra S. Intimate partner violence: Economic costs and implications for growth and development. Women's voice, agency, and participation research series, no. 3. World Bank, Washington, DC. Available from: https://openknowledge.worldbank.org/handle/10986/ 16697. Global cost estimates of IPV
- 14. Ashe S, Duvvury N, Raghavendra S, Scriver S, O'Donovan D. Costs of violence against women: an examination of the evidence. Working paper 2: What Works evidence reviews. Bangladesh: UK AID; 2016 [cited 2022 Jun 30]. Available from: https://www.whatworks.co.za/resources/evidence-revie ws/item/218-working-paper-no-2-costs-of-violence-against-women-an-examination-of-the-evidence.
- 15.• World Health Organization. The VPA (Violence Prevention Alliance) approach. Geneva: WHO. 2022. [cited 2022 Jun 30]. Available from: https://www.who.int/groups/violence-prevention-alliance/approach The WHO's ecological model of IPV
- Krug E, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, editors. World report on violence and health. Geneva: World Health Organization. 2002 [cited 2022 Jul 4]. Available from: https:// apps.who.int/iris/bitstream/handle/10665/42495/9241545615_ eng.pdf.

- 17. Heise LL. Violence against women: an integrated, ecological framework. Violence Against Women. 1998;4(3):262–90. https://doi.org/10.1177/1077801298004003002.
- Johnson MP. Gender and types of intimate partner violence: a response to an anti-feminist literature review. Aggress Violent Behav. 2011;16(4):289–96. https://doi.org/10.1016/j.avb.2011.04.006.
- 19. Johnson H. Degendering violence. Soc Polit. 2015;22(3):390–410. https://doi.org/10.1093/sp/jxv021.
- 20.• Ford-Gilboe M, Wathen CN, Varcoe C, MacMillan H, Scott-Storey K, Mantler T, et al. Development of a brief measure of intimate partner violence experiences: the Composite Abuse Scale (Revised) Short Form (CAS_R-SF). BMJ Open. 2016;6(12):e012824. https://doi.org/10.1136/bmjopen-2016-012824. Important new measure of IPV as a gendered and patterned complex phenomenon
- 21.• Heise L, Pallitto C, García-Moreno C, Clark CJ. Measuring psychological abuse by intimate partners: constructing a crosscultural indicator for the Sustainable Development Goals. SSM Popul Health. 2019;9:100377. https://doi.org/10.1016/j.ssmph. 2019.100377. Important new measure of IPV as a gendered and patterned complex phenomenon
- 22 Covington S. Women and addiction: a trauma-informed approach. J Psychoactive Drugs. 2008;40(sup5):377–85. https:// doi.org/10.1080/02791072.2008.10400665.
- 23. Green BL, Saunders PA, Power E, Dass-Brailsford P, Bhat Schlbert K, Giller E, et al. Trauma-informed medical care: CME communication training for primary care providers. Fam Med. 2015;47(1):7–14.
- Esopenko C, Meyer J, Wilde EA, Marshall AD, Tate DF, Lin AP, et al. A global collaboration to study intimate partner violencerelated head trauma: the ENIGMA consortium IPV working group. Brain Imaging Behav. 2021;15(2):475–503. https://doi. org/10.1007/s11682-020-00417-0.
- 25 Anda RF, Felitti VJ, Bremner JD, Walker JD, Whitfield C, Perry BD, et al. The enduring effects of abuse and related adverse experiences in childhood. A convergence of evidence from neurobiology and epidemiology. Eur Arch Psychiatry Clin Neurosci. 2006;256(3):174–86. https://doi.org/10.1007/ s00406-005-0624-4.
- Cloitre M, Stolbach BC, Herman JL, van der Kolk B, Pynoos R, Wang J, et al. A developmental approach to complex PTSD: childhood and adult cumulative trauma as predictors of symptom complexity. J Trauma Stress. 2009;22(5):399–408. https://doi. org/10.1002/jts.20444.
- 27. Felitti VJ, Anda RF. The relationship of adverse childhood experiences to adult health, well-being, social function, and health care. In: Lanius R, Vermetten E, Pain C, editors. The effects of early life trauma on health and disease: the hidden epidemic. Cambridge (GB): Cambridge University Press; 2010.
- Cook A, Spinazzola J, Ford J, Lanktree C, Blaustein M, Cloitre M, et al. Complex trauma in children and adolescents. Psychiatr Ann. 2005;35(5):390–8.
- Humphreys J, Epel ES, Cooper BA, Lin J, Blackburn EH, Lee KA. Telomere shortening in formerly abused and never abused women. Biol Res Nurs. 2012;14(2):115–23. https://doi.org/10. 1177/1099800411398479.
- 30.• Serpeloni F, Nätt D, Assis SGD, Wieling E, Elbert T. Experiencing community and domestic violence is associated with epigenetic changes in DNA methylation of BDNF and CLPX in adolescents. Psychophysiology. 2020;57(1):e13382. **IPV as a traumatic experience with epigenetic impacts**
- Krieger N, Kosheleva A, Waterman PD, Chen JT, Koenen K. Racial discrimination, psychological distress, and self-rated health among US-born and foreign-born Black Americans. Am J Public Health. 2011;101(9):1704–13. https://doi.org/10.2105/ AJPH.2011.300168.

- 32. van der Kolk BA, McFarlane AC, Weisaeth L, editors. Traumatic stress: the effects of overwhelming experience on mind, body, and society. New York: Guilford Press; 1996.
- 33.• Gone JP, Hartmann WE, Pomerville A, Wendt DC, Klem S, Burrage RL. The impact of historical trauma on health outcomes for Indigenous populations in the USA and Canada: a systematic review. Am Psychologist. 2019;74(1):20–35. https://doi.org/10. 1037/amp0000338 Systematic review of colonialism and its ongoing traumatic effects on Indigenous Peoples.
- Substance Abuse and Mental Health Services Administration. SAMHSA's concept of trauma and guidance for a traumainformed approach. Rockville (MD): Substance Abuse and Mental Health Services Administration; 2014 [cited 2022 Jul 4]. HHS Publication No. (SMA) 14–4884. Available from: https://store.samhsa.gov/product/SAMHSA-s-Concept-of-Trauma-and-Guidance-for-a-Trauma-Informed-Approach/ SMA14-4884.
- Elliot DE, Bjelajac P, Fallot RD, Markoff LS, Reed BG. Traumainformed or trauma-denied: principles and implementation of trauma-informed services for women. J Community Psychol. 2005;33(4):461–77. https://doi.org/10.1002/jcop.20063.
- Hopper EK, Bassuk EL, Oliver J. Shelter from the storm: trauma-informed care in homelessness services settings. Open Health Serv Policy J. 2010;3:80–100. https://doi.org/10.2174/ 1874924001003010080.
- Savage L, Quiros A, Dodd S, Bonavota D. Building trauma informed practice: appreciating the impact of trauma in the lives of women with substance abuse and mental health problems. J Soc Work Pract Addict. 2007;7(1–2):91–116. https://doi.org/10. 1300/J160v07n01_06.
- Strand V, Popescu M, Abramovitz R, Richards S. Building agency capacity for trauma-informed evidence-based practice and field instruction. J Evid Informed Soc Work 2015;1–19. https://doi.org/10.1080/23761407.2015.1014124.
- 39 Bloom SL. The sanctuary model: through the lens of moral safety. In: Gold SN, editor. APA handbook of trauma psychology: trauma practice. Am Psychol Assoc: Washington (DC); 2017. https://doi.org/10.1037/0000020-024.
- 40 Yatchmenoff DK, Sundborg SA, Davis MA. Implementing trauma-informed care: recommendations on the process. Adv Soc Work. 2017;18(1):167–85. https://doi.org/10.18060/21311.
- 41. Baird SL, Alaggia R, Maiter S. Broadening the 'survivor capsule' of intimate partner violence services. British J Soc Work. 2021;51:2517–35. https://doi.org/10.1093/bjsw/bcaa067.
- Biss DC, Dykstra-DeVette TA, Geist-Martin P. Bridging traumainformed care and organizational accommodations: an ethnographic analysis of tensional knots in an anti-violence nonprofit. J Applied Commun Res. 2022;50(2):129–48. https://doi.org/10. 1080/00909882.2022.2035795.
- 43.• Wathen CN, Schmitt B, MacGregor JCD. Measuring trauma-(and violence-) informed care: a scoping review. Trauma Violence Abuse. 2021. https://doi.org/10.1177/152483802110293
 99. Scoping review of TVIC measures indicating individual (rather than structural) level focus of most approaches
- 44. Public Health Agency of Canada. Trauma and violence-informed approaches to policy and practice. Ottawa (ON): Government of Canada; 2018 [cited 2022 Jul 4]. Available from: https://www. canada.ca/en/public-health/services/publications/health-riskssafety/trauma-violence-informed-approaches-policy-practice. html.
- 45. Whitehead M, Dahlgren G. Levelling up (part 1): a discussion paper on concepts and principles for tackling social inequities in health. Liverpool (GB): University of Liverpool, WHO Collaborating Centre for Policy Research on Social Determinants of Health. 2006 [cited 2022 Jul 4]. Available from: http://www. who.int/social_determinants/resources/leveling_up_part1.pdf.

- Farmer P. Pathologies of power: health, human rights, and the new war on the poor. Berkeley (CA): University of California Press; 2003.
- 47.•• Wathen CN, Varcoe CM, editors. Implementing trauma- and violence-informed care: a handbook for diverse service contexts. Toronto (ON): University of Toronto Press; in press. Practice-focused guide to understanding and implementing TVIC as a structural intervention across health, education and social service systems and organizations, including IPV services
- Ponic P, Varcoe C, Smutylo T. Trauma- (and violence-) informed approaches to supporting victims of violence: policy and practice considerations. Canada: Department of Justice; 2016 [cited 2022 Jul 4]. Victims of Crime Research Digest, 9. Available from: http://www.justice.gc.ca/eng/rp-pr/cj-jp/ victim/rd9-rr9/p2.html.
- Scott-Storey K, O'Donnell S, Ford-Gilboe M, Varcoe C, Wathen N, Malcolm J, et al. What about the men? A critical review of men's experiences of intimate partner violence. Trauma Violence Abuse 2022:Online first. https://doi.org/10. 1177/15248380211043827.
- 50. O'Doherty L, Hegarty K, Ramsay J, Davidson LL, Feder G, Taft A. Screening women for intimate partner violence in healthcare settings. Cochrane Database Syst Rev. 2015;7:CD007007. https://doi.org/10.1002/14651858.CD007 007.pub3. Systematic review of screening for IPV indicating lack of effect
- Wathen CN. Identifying intimate partner violence in mental health settings: there's a better way than screening. Psynopsis 2020;42(2):17–18. Available from: https://cpa.ca/docs/File/ Psynopsis/2020-Vol42-2/index.html.
- World Health Organization. Health care for women subjected to intimate partner violence or sexual violence: a clinical handbook. Geneva: World Health Organization. 2014 [cited 2022 Jul 4]. Available from. https://apps.who.int/iris/handle/10665/ 136101.
- 53. Arroyo K, Lundahl B, Butters R, Vanderloo M, Wood DS. Shortterm interventions for survivors of intimate partner violence: a systematic review and meta-analysis. Trauma Violence Abuse. 2017;18(2):155–71. https://doi.org/10.1177/1524838015602736. Systematic review of short term IPV survivor interventions showing mixed effects
- 54.• Rivas C, Ramsay J, Sadowski L, Davidson LL, Dunne D, Eldridge S, et al. Advocacy interventions to reduce or eliminate violence and promote the physical and psychosocial well-being of women who experience intimate partner abuse. Cochrane Database Syst Rev. 2015;12:CD005043. https://doi.org/10.1002/ 14651858.CD005043.pub3. Systematic review of IPV advocacy interventions for survivors showing mixed effects
- 55.• Ogbe E, Harmon S, Van den Bergh R, Degomme O. A systematic review of intimate partner violence interventions focused on improving social support and mental health outcomes of survivors. PLoS ONE. 2020;15(6):e0235177. https://doi.org/10.1371/ journal.pone.0235177. Systematic review of IPV social support and mental health interventions for survivors showing mixed effects
- 56.• Klein LB, Chesworth BR, Howland-Myers JR, Rizo CF, Macy RJ. Housing interventions for intimate partner violence survivors: a systematic review. Trauma Violence Abuse. 2021;22(2):249–64. https://doi.org/10.1177/1524838019836284. Systematic review of IPV survivor housing interventions showing more research required
- Wathen CN, MacMillan HL. Interventions for violence against women: scientific review. JAMA. 2003;289(5):589–600. https:// doi.org/10.1001/jama.289.5.589.
- 58.• El Morr C, Layal M. Effectiveness of ICT-based intimate partner violence interventions: a systematic review. BMC Public Health.

2020;20(1):1372. https://doi.org/10.1186/s12889-020-09408-8. Systematic review of technology-facilitated IPV interventions for survivors showing mixed effects

- Hill AL, Zachor H, Miller E, Talis J, Zelazny S, Jones KA. Trauma-informed personalized scripts to address partner violence and reproductive coercion: follow-up findings from an implementation randomized controlled trial study. J Womens Health. 2021;30(4):604–14. https://doi.org/10.1089/jwh.2020.8527.
- Ragavan MI, Ferre V, Bair-Merritt M. Thrive: a novel health education mobile application for mothers who have experienced intimate partner violence. Health Promot Pract. 2020;21(2):160– 4. https://doi.org/10.1177/1524839919890870.
- 61. Koziol-McLain J, Vandal AC, Wilson D, et al. Efficacy of a web-based safety decision aid for women experiencing intimate partner violence: randomized controlled trial. J Med Internet Res. 2018;19(12):e426. https://doi.org/10.2196/jmir.8617.
- 62. Ford-Gilboe M, Varcoe C, Scott-Storey K, et al. Longitudinal impacts of an online safety and health intervention for women experiencing intimate partner violence: randomized controlled trial. BMC Public Health. 2020;20(1):260. https://doi.org/10. 1186/s12889-020-8152-8.
- 63. Glass NE, Clough A, Messing JT, et al. Longitudinal impact of the myPlan app on health and safety among college women experiencing partner violence. J Interpers Violence 2021:886260521991880. https://doi.org/10.1177/0886260521 991880.
- 64. Sabri B, Njie-Carr VPS, Messing JT, et al. The weWomen and ourCircle randomized controlled trial protocol: a web-based intervention for immigrant, refugee and indigenous women with intimate partner violence experiences. Contemp Clin Trials. 2019;76:79–84. https://doi.org/10.1016/j.cct.2018.11.013.
- 65.• Karakurt G, Whiting K, van Esch C, Bolen SD, Calabrese JR. Couples therapy for intimate partner violence: a systematic review and meta-analysis. J Marital Fam Ther. 2016;42(4):567– 83. https://doi.org/10.1111/jmft.12178. Systematic review of IPV couples interventions showing mixed effects for situational couple violence cases and advocating caution in cases with coercive control/intimate terrorism
- Hurless N, Cottone RR. Considerations of conjoint couples therapy in cases of intimate partner violence. Family J. 2018;26(3):324–9. https://doi.org/10.1177/1066480718795708.
- Stith SM, Topham GL, Spencer C, et al. Using systemic interventions to reduce intimate partner violence or child maltreatment: a systematic review of publications between 2010 and 2019. J Marital Fam Ther. 2022;48(1):231–50. https://doi.org/10.1111/jmft.12566.
- 68.• Love HA, Spencer CM, May SA, Mendez M, Stith SM. Perpetrator risk markers for intimate terrorism and situational couple violence: a meta-analysis. Trauma Violence Abuse. 2020;21(5):922–31. https://doi.org/10.1177/1524838018801331. Meta-analysis to help understand the risk markers for intimate terrorism versus situational couple violence
- 69.• Karakurt G, Koç E, Çetinsaya EE, Ayluçtarhan Z, Bolen S. Meta-analysis and systematic review for the treatment of perpetrators of intimate partner violence. Neurosci Biobehav Rev. 2019;105:220–30. https://doi.org/10.1016/j.neubiorev.2019. 08.006. Systematic review of IPV perpetrator interventions showing mixed effects
- 70.• Velonis AJ, Mahabir DF, Maddox R, O'Campo P. Still looking for mechanisms: a realist review of batterer intervention programs. Trauma Violence Abuse. 2020;21(4):741–53. https://doi. org/10.1177/1524838018791285. Systematic review of IPV perpetrator interventions showing mixed effects and calling for theoretically grounded approaches
- 71. Voith LA, Logan-Greene P, Strodthoff T, Bender AE. A paradigm shift in batterer intervention programming: a need

to address unresolved trauma. Trauma Violence Abuse. 2020;21(4):691–705. https://doi.org/10.1177/1524838018 791268.

- Berke DS, Macdonald A, Poole GM, Portnoy GA, McSheffrey S, Creech SK, et al. Optimizing trauma-informed intervention for intimate partner violence in veterans: the role of alexithymia. Behav Res Therapy. 2017;97:222–9. https://doi.org/10.1016/j. brat.2017.08.007.
- Cascardi M, Jouriles EN. A study space analysis and narrative review of trauma-informed mediators of dating violence. Trauma Violence Abuse. 2018;19(3):266–85. https://doi.org/10.1177/ 1524838016659485.
- Creech SK, Benzer JK, Ebalu T, Murphy CM, Taft CT. National implementation of a trauma-informed intervention for intimate partner violence in the Department of Veterans Affairs: First year outcomes. BMC Health Serv Res. 2018;18(1):1–9. https:// doi.org/10.1186/s12913-018-3401-6.
- LaMotte AD, Gower T, Miles-McLean H, Farzan-Kashani J, Murphy CM. Trauma's influence on relationships: clients' perspectives at an intimate partner violence intervention program. J Fam Violence. 2019;34(7):655–62. https://doi.org/10.1007/ s10896-018-0004-2.
- Gilbar O, Taft C, Dekel R. Male intimate partner violence: examining the roles of childhood trauma, PTSD symptoms, and dominance. J Fam Psychol. 2020;34(8):1004. https://doi.org/10. 1037/fam0000669.
- Webermann AR, Maldonado A, Singh R, Torres S, Bushee S, Murphy CM. Centrality of traumatic events and men's intimate partner violence perpetration. Psychol Trauma. 2020;12(2):200–6.
- Bouchard J, Wong JS. Disparate approaches to intimate partner violence intervention: a preliminary investigation of participant outcomes across two community-based programs. Deviant Behav. 2021;42(11):1396–415. https://doi.org/10.1080/01639 625.2020.1750569.
- Cole HE, Gilbar O, Gnall KE, Eckhardt CI, Taft CT. Examining executive functioning as a moderator of intimate partner violence risk in veterans. J Fam Violence. 2021. https://doi.org/10. 1007/s10896-021-00339-5.
- Gilbar O, Taft CT, Gnall KE. Gender differences in relations between social information processing, PTSD symptoms, and intimate partner violence. Psychol Violence. 2021;11(6):539–48. https://doi.org/10.1037/vio0000389.
- Choi YJ, Rai A, Yun SH, Lee JO, Hong S, Cho H, et al. Risk factors for intimate partner violence perpetration among college students: impact of childhood adversities. J Am College Health 2022;1–9. https://doi.org/10.1080/07448481.2022.2068017..
- 82.•• Paphitis SA, Bentley A, Asher L, Osrin D, Oram S. Improving the mental health of women intimate partner violence survivors: Findings from a realist review of psychosocial interventions. PLoS ONE. 2022;17(3):e0264845. https://doi.org/10.1371/journ al.pone.0264845. Realist review of psychosocial IPV interventions for survivors focusing on mechanisms of change in effective strategies
- 83.•• Jewkes R, Willan S, Heise L, Washington L, Shai N, Kerr-Wilson A, et al. Elements of the design and implementation of interventions to prevent violence against women and girls associated with success: reflections from the What Works to Prevent Violence against Women and Girls? Global Programme. Int J Environ Res Public Health. 2021;18(22):12129. https://doi.org/10.3390/ijerph182212129. Synthesis of research and current thinking on primary prevention of IPV using structural and community level interventions
- 84.•• Bourey C, Williams W, Bernstein EE, et al. Systematic review of structural interventions for intimate partner violence in low- and middle-income countries: organizing evidence for prevention.

BMC Public Health. 2015;1:1165. https://doi.org/10.1186/ s12889-015-2460-4. Systematic review of structural and community level interventions for primary prevention of IPV

- 85.•• Eggers Del Campo I, Steinert JI. The effect of female economic empowerment interventions on the risk of intimate partner violence: a systematic review and meta-analysis. Trauma Violence Abuse. 2022;23(3):810–26. https://doi.org/10.1177/1524838020 976088. Systematic review and meta-analysis of effectiveness of economic empowerment as a structural intervention to prevent IPV
- 86.• Niolon PH, Kearns M, Dills J, Rambo K, Irving S, Armstead T, et al. Preventing intimate partner violence across the lifespan: a technical package of programs, policies, and practices. Atlanta (GA): National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. 2017 [cited 2022 Jul 4]. Available from:https://www.cdc.gov/violencepr evention/intimatepartnerviolence/prevention.html Technical package from US-CDC on lifespan approach to preventing IPV with upstream interventions
- 87.• Bailey K, Trevillion K, Gilchrist G. What works for whom and why: a narrative systematic review of interventions for reducing post-traumatic stress disorder and problematic substance use among women with experiences of interpersonal violence. J Subst Abuse Treat. 2019;99:88–103. https://doi.org/ 10.1016/j.jsat.2018.12.007. Review of integrating a trauma lens to improve effectiveness of IPV survivor interventions
- Han HR, Miller HN, Nkimbeng M, et al. Trauma informed interventions: a systematic review. PLoS ONE. 2021;16(6):e0252747. https://doi.org/10.1371/journal.pone. 0252747.
- 89.• Kulkarni S. Intersectional trauma-informed intimate partner violence (IPV) services: narrowing the gap between IPV service delivery and survivor needs. J Fam Viol. 2019;34:55–64. https:// doi.org/10.1007/s10896-018-0001-5. Discusses the importance of trauma-informed and more structural components to IPV services and interventions
- 90. Varcoe C, Bungay V, Browne AJ, et al. EQUIP Emergency: study protocol for an organizational intervention to promote equity in health care. BMC Health Serv Res. 2019;19(1):687. https://doi.org/10.1186/s12913-019-4494-2.
- Ford-Gilboe M, Wathen CN, Varcoe C, et al. How equity-oriented health care affects health: key mechanisms and implications for primary health care practice and policy. Milbank Q. 2018;96(4):635–71. https://doi.org/10.1111/1468-0009.12349.
- 92. Varcoe C, Browne AJ, Perrin N, Wilson E, Bungay V, Byres D, et al. EQUIP Emergency: can interventions to reduce racism, discrimination and stigma in EDs improve outcomes? BMC Health Serv Res. 2022;22(1):1113. https://doi.org/10.1186/ s12913-022-08475-4.
- 93. Jack SM, Boyle M, McKee C, Ford-Gilboe M, Wathen CN, Scribano P, et al. Effect of addition of an intimate partner violence intervention to a nurse home visitation program on maternal quality of life: a randomized clinical trial. JAMA. 2019;321(16):1576–85. https://doi.org/10.1001/jama.2019. 321121.
- 94 Varcoe C, Ford-Gilboe M, Browne AJ, et al. The efficacy of a health promotion intervention for Indigenous women: Reclaiming Our Spirits. J Interpers Violence. 2021;36(13–14):NP7086– 116. https://doi.org/10.1177/0886260518820818.
- 95. Ford-Gilboe M, Merritt-Gray M, Varcoe C, Wuest J. A theorybased primary health care intervention for women who have left abusive partners. ANS Adv Nurs Sci. 2011;34(3):198–214. https://doi.org/10.1097/ANS.0b013e3182228cdc.
- 96. Hawe P. Lessons from complex interventions to improve health. Annu Rev Public Health. 2015;36:307–23. https://doi.org/10. 1146/annurev-publhealth-031912-114421.

- Jack SM, Ford-Gilboe M, Wathen CN, et al. Development of a nurse home visitation intervention for intimate partner violence [published correction appears in BMC Health Serv Res 2016:16:445]. BMC Health Serv Res. 2012;12:50. https://doi. org/10.1186/1472-6963-12-50.
- Jack, SM. Trauma- and violence-informed care in nurse home visiting practice. Hamilton (ON): McMaster University. 2019 [cited 2022 Jul 11]. Available from: https://phnprep.ca/wp-conte nt/uploads/2021/03/NFP_NFPTVIC_G5.pdf.
- 99. Rutter H, Savona N, Glonti K, et al. The need for a complex systems model of evidence for public health. Lancet.

2017;390(10112):2602-4. https://doi.org/10.1016/S0140-6736(17)31267-9.

100. Holmes JA, Logan P, Morris R, et al. Factors affecting the delivery of complex rehabilitation interventions in research with neurologically impaired adults: a systematic review. Syst Rev. 2020;9:268. https://doi.org/10.1186/s13643-020-01508-1.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.