Intimate Partner Violence in Transgender Populations: Systematic Review and Meta-analysis of Prevalence and Correlates

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Background: Transgender individuals experience unique vulnerabilities to intimate partner violence (IPV) and may experience a disproportionate IPV burden compared with cisgender (nontransgender) individuals.

Objectives: To systematically review the quantitative literature on prevalence and correlates of IPV in transgender populations.

Search Methods: Authors searched research databases (PubMed, CINAHL), gray literature (Google), journal tables of contents, and conference abstracts, and consulted experts in the field. Authors were contacted with data requests in cases in which transgender participants were enrolled in a study, but no disaggregated statistics were provided for this population.

Selection Criteria: We included all quantitative literature published before July 2019 on prevalence and correlates of IPV victimization, perpetration, or service utilization in transgender populations. There were no restrictions by sample size, year, or location.

Data Collection and Analysis: Two independent reviewers conducted screening. One reviewer conducted extraction by using a structured database, and a second reviewer checked for mistakes or omissions. We used random-effects meta-analyses to calculate relative risks (RRs) comparing the prevalence of IPV in transgender individuals and cisgender individuals in studies in which both transgender and cisgender individuals were enrolled. We also used meta-analysis to compare IPV prevalence in assigned-female-sex-at-birth and assigned-male-sex-at-birth transgender individuals and to compare physical IPV prevalence between nonbinary and binary transgender individuals in studies that enrolled both groups.

Main Results: We identified 85 articles from 74 unique data sets (n_{total} = 49 966 transgender participants). Across studies reporting it, the

median lifetime prevalence of physical IPV was 37.5%, lifetime sexual IPV was 25.0%, past-year physical IPV was 16.7%, and past-year sexual IPV was 10.8% among transgender individuals. Compared with cisgender individuals, transgender individuals were 1.7 times more likely to experience any IPV (RR = 1.66; 95% confidence interval [CI] = 1.36, 2.03), 2.2 times more likely to experience physical IPV (RR = 2.19; 95% CI = 1.66, 2.88), and 2.5 times more likely to experience sexual IPV (RR = 2.46; 95% CI = 1.64, 3.69). Disparities persisted when comparing to cisgender women specifically. There was no significant difference in any IPV, physical IPV, or sexual IPV prevalence between assigned-female-sex-at-birth and assigned-male-sex-at-birth individuals, nor in physical IPV prevalence between binary- and nonbinary-identified transgender individuals. IPV victimization was associated with sexual risk, substance use, and mental health burden in transgender populations.

Authors' Conclusions: Transgender individuals experience a dramatically higher prevalence of IPV victimization compared with cisgender individuals, regardless of sex assigned at birth. IPV prevalence estimates are comparably high for assigned-male-sex-at-birth and assigned-female-sexat-birth transgender individuals, and for binary and nonbinary transgender individuals, though more research is needed.

Public Health Implications: Evidence-based interventions are urgently needed to prevent and address IPV in this high-risk population with unique needs. Lack of legal protections against discrimination in employment, housing, and social services likely foster vulnerability to IPV. Transgender individuals should be explicitly included in US Preventive Services Task Force recommendations promoting IPV screening in primary care settings. Interventions at the policy level as well as the interpersonal and individual level are urgently needed to address epidemic levels of IPV in this marginalized, high-risk population. (*Am J Public Health.* 2020:110; e1–e14. doi:10.2105/AJPH.2020. 305774)

PLAIN-LANGUAGE SUMMARY

Intimate partner violence (IPV) is a pervasive public health issue that can result in physical injury, mental illness, and even homicide. Less attention has been paid to IPV in transgender individuals, whose gender differs from the sex they were assigned at birth. We searched for existing studies about the prevalence and correlates of IPV victimization, perpetration, or service utilization in transgender populations. We found 85 relevant articles. Transgender individuals face high rates of IPV: on average, across studies, some 1 in 6 transgender individuals reported physical IPV, and 1 in 10 reported sexual IPV in the past year. Transgender people were 2.2 times more likely to experience physical IPV and 2.5 times more likely to experience sexual IPV than were cisgender people recruited for the same study. IPV victimization was linked to worse sexual health, mental health, and substance abuse outcomes in transgender individuals, pointing to IPV as a potential driver of health disparities. This study suggests that transgender people should be meaningfully included in IPV screening programs, and more should be done to increase access to resources such as domestic violence shelters. Future research should test IPV prevention interventions for this population that is disproportionately affected by violence.

ntimate partner violence (IPV)-defined as physical violence, sexual violence, stalking, psychological aggression, or coercive control by a current or former intimate partner¹—is a pervasive public health issue that often results in physical injury, mental illness, negative sexual and reproductive health outcomes, and even homicide.^{2,3} Globally, IPV has disproportionate prevalence, severity, and impact on cisgender (i.e., individuals whose gender aligns with their sex assigned at birth [SAB]) women, affecting roughly 1 in 3 women, but also affects cisgender men.^{3–5} Emerging research demonstrates that transgender individuals (i.e., individuals whose gender is different from their SAB, including transgender men, transgender women, and nonbinary individuals) experience high levels of IPV victimization.^{6–12} An estimated 25 million people worldwide are transgender.¹³

In addition to common antecedents of IPV, including relationship stress and substance use,¹⁴ transgender individuals experience unique "trans-related vulnerability" to IPV and thus may be disproportionately affected by IPV compared with cisgender individuals.^{10,15,16} Abusers can seek to undermine transgender partners by misgendering them (using incorrect pronouns), exploiting insecurities linked to societal stigma (e.g., fear of not finding love outside the relationship because of transgender identity), or threatening to "out" them (i.e., reveal transgender identity to others) as a form of blackmail.9,15,17 Transgender individuals are also more likely to experience multiple sources of social isolation (e.g., rejection by family and friends) and economic vulnerability (e.g., employment discrimination or homelessness) that can increase dependency on a violent partner. These issues are more common among transgender individuals of color and disabled individuals.^{10,15} When seeking help from domestic violence shelters, police, or medical providers, transgender individuals are likely to face additional discrimination on the basis of gender identity.15,16,18,19

In the 2015 US Transgender Survey (n = 27715), 54% reported some form of lifetime IPV: 35% physical IPV (e.g., being hit or slapped), 24% severe physical IPV (e.g., being beaten, burned, or harmed with a weapon), and 19% sexual IPV (e.g., being forced to do something sexual that was unwanted) by a partner, all rates comparable to or greater than those documented in the US population at large and cisgender women globally.^{2,3,15} Given rising recognition of epidemic levels of violence against transgender individuals globally,^{20,21} we undertook a global systematic review synthesizing the existing quantitative literature on the prevalence, correlates, and health outcomes of IPV victimization and perpetration, and on IPV service utilization in transgender populations.

METHODS

Full methods are included in Appendix A (available as a supplement to the online version of this article at http://www.ajph. org). To identify articles for inclusion, we used PubMed and CINAHL database searches, forward and backward citation searches, hand searching journal and conference abstracts, Google searches for gray literature, and expert consultation. The database search was updated in November 2017 and again in July 2019 before publication. Articles were included if they were original research and contained quantitative data on IPV victimization, perpetration, or service utilization prevalence or correlates specifically for transgender individuals, or if authors were willing to provide data for transgender subsample(s) when contacted. Two independent reviewers (S. M. P., M. M., S. K., E. M.) conducted the screening for each article, and 1 reviewer conducted the extraction (S. M. P., S. K., M. M., E. M.), which another reviewer double-checked (S. M. P., E. M., S.K., M.M.). We requested data from authors for articles that did not present disaggregated IPV data for transgender

subsample(s) but indicated that they had enrolled transgender participants. We extracted data with a standardized database collecting

- 1. IPV victimization prevalence,
- 2. IPV perpetration prevalence,
- 3. demographic correlates of victimization or perpetration,
- 4. health outcomes associated with victimization or perpetration,
- utilization of IPV services (i.e., help seeking following an IPV incident with domestic violence shelters, medical providers, police, or others), and
- 6. methodological characteristics.

We extracted data on all IPV types (physical, sexual, and psychological and other forms of IPV [e.g., stalking]). We categorized IPV type as "any IPV" if the assessment tool combined multiple types of IPV into 1 question (e.g., "Has your partner hit you or forced you to have sex?"), if the article asked about IPV generally (e.g., "Have you ever experienced domestic violence?"), or if an article provided a summary statistic combining multiple types of IPV after reporting prevalence of each type separately.

We used random effects meta-analysis (metabin command in R [R Foundation for Statistical Computing, Vienna, Austria]) to compare any, physical, and sexual IPV prevalence in transgender participants versus (1) all cisgender participants, (2) cisgender men participants, and (3) cisgender women participants in studies that included a cisgender comparison group. We also used random effects meta-analysis to compare (1) any IPV, physical IPV, and sexual IPV prevalence in assigned-female-sex-at-birth (AFAB; may identify as male, man, nonbinary, etc.) and assigned-male-sex-at-birth (AMAB; may identify as female, woman,

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nonbinary, etc.) transgender participants and (2) physical IPV prevalence in binary- and nonbinary-identified transgender individuals in studies that reported IPV prevalence separately for each group.

RESULTS

From a review of more than 1229 records, 85 articles from 74 unique study data sets met all inclusion criteria (Appendix C, Figure A, available as a supplement to the online version of this article at http://www.ajph.org), representing 1 273 989 participants, including 49 966 transgender participants across studies (Appendix B, Table A, available as a supplement to the online version of this article at http://www.ajph.org). The median total sample size (inclusive of cisgender participants) across studies was 499 (interquartile range [IQR] = 150-2042), and the median transgender sample size was 91 (IQR = 29-232). Most included studies were conducted in the United States (73%; n = 54/74) and other high-income countries (Spain,²² Australia,^{23–25} Scotland,⁹ Canada,^{26–28} and France²⁹: 12%; n = 9/74; Appendix B, Table A). The remainder were from middle-income settings (Thailand,⁸ South Africa,^{30,31} Jamaica,¹¹ India,³² China,⁷ Brazil,^{33,34} Mexico,³⁵ Haiti,³⁶ and countries across Latin America³⁷: 15%; n = 11/74). The majority of studies were peer-reviewed (88%; n = 65/74), and the remainder were reports from advocacy and research organizations^{9,23,26,38–41} (10%; n = 7/74) or unpublished data from a state survey.^{42,43}

Among the 71 unique studies that enrolled transgender individuals rather than service providers, AMAB individuals participated in 78% (n = 55/71),^{6-9,11,15,22,23,26,29-38,40,42,44-77} and AFAB individuals participated in 44% (n = 31/71) of studies.^{6,9,15,22,23,26,29,31,35,37,38,40,42,47-52,56,61,62,65-67,71-75,78} While 28% (n = 20/71) of studies explicitly reported inclusion of nonbinary individuals,^{6,9,15,26,35,38,40,47,50-52,62,65-67,71-73,75,78} this is likely an underestimate attributable to frequent lack of disaggregation of nonbinary participants. Authors from 30 of the 71 studies did not publish disaggregated IPV data for transgender participants or other information necessary for inclusion in the review, but they provided these data when

contacted.^{7,17,24,26,29–31,33–38,42,43,47,48,61,62,66,70,72,74, ^{76,77,79–83} We excluded more than 40 articles representing more than 3000 transgender participants because, although they contained IPV data and recruited transgender participants, the authors were unresponsive to requests for disaggregated statistics for trans-}

gender participants. Studies were predominantly crosssectional convenience samples (Appendix B, Table B) recruited from diverse sites and usually multiple sites per study. A mix of self- (62%; n = 44/71) and intervieweradministered (34%; n = 24/71) data collection tools were used, with the majority of self-administered studies (61%; n = 27/44) occurring online. While some studies generically described staff as "trained," only 230,58 explicitly reported training in populationspecific cultural competency. None explicitly reported training study staff about sensitive IPV assessment. Although 66% (n = 47/71)^{7-9,11,15,17,23,26,28,29,32,34-36,38,40-46,48,49,51,} 52,54-60,62,64,66-69,71-73,77-79,84,85 of studies

demonstrated some evidence of community engagement (i.e., "a process of inclusive participation that supports . . . authentic partnership" between researchers and community members affected by the research^{86(p1383)}), extent of community-engagement methods varied greatly (see Appendix B, Table B for details).

Definitions of "intimate partner" also varied, including by relationship duration and whether sexual intimacy was required. While IPV was predominantly assessed using behavioral measures (e.g., "Has a boyfriend or girlfriend ever hit, slapped, or physically hurt you on purpose?"), 17% $(n = 12/71)^{11,29,31,32,35,38,44,48,55,56,58,70}$ of studies used nonbehavioral measures (e.g., "Have you ever experienced domestic violence?"), and $4\% (n = 3/71)^{24,53,84}$ measured domestic violence service utilization without directly assessing IPV victimization experience. Seven percent (n = 5/71) of studies^{9,39,45,64,87} developed transgender-specific IPV items (e.g., partner insulted them by telling them they were not a "real" woman or man), including 1 study that validated a transspecific IPV measure.87 Twenty-three studies 32% 6,7,11,15,29,31,35,36,38,50,51,53,58,63-65,67-69,74,77,78,88 reported using a 2-step measure⁸⁹ (i.e., 2 items separately assessing SAB and gender identity) to determine gender identity of participants.

Intimate Partner Violence in Transgender Populations

Lifetime report of experiencing any IPV ranged from 6.3%⁵⁶ to 83.3%⁸⁰ across 28 unique studies^{7,9,11,15,23,26,28,33,34,38,44,50–} ^{52,56,64–68,74,76–78,80,85,90,91} reflecting het–

erogeneous study populations and assessment tools (Table 1). Lifetime physical IPV ranged from $10.5\%^{74}$ to $66.7\%^{80}$ (median = $37.5\%^{34,37}$) across 16 studies.^{9,15,23}, 34,37,42,43,54,57,58,60,66,74,77,80,87 Lifetime

sexual IPV ranged from 5.0%²² to 66.7%⁸⁰ (median = 25.0%⁵⁷) across 14 studies.^{9,15,22,23,37,57,60,64,66,74,77,80,87}

Past-year physical IPV ranged from $3.8\%^{92}$ to $44.7\%^{93}$ (median = $16.7\%^{72}$) across 11 studies. ${}^{6,17,36,46,72,73,75,82,92-94}$ Pastyear sexual IPV ranged from $3.2\%^{59}$ to $29.1\%^{82}$ (median = $10.8\%^{93}$) across 7 studies. 6,17,59,72,82,93,94 Twenty-three studies measured IPV prevalence using other reference periods, including partnership-based time periods or time since enrollment in college. ${}^{7,8,24,29-32,35,40,47,48,54,55,59,61,}_{69,70,79,81,88,95-97}$

Twenty-four studies^{6,7,9,15,17,23,37,40,41},

I wenty-toth status, 60,64,66,71,72,74,77,80,81,83,87,88,93-95 assessed prevalence of psychological and other types of IPV, including threats (ranging from 19.8% to $60.0\%^9$), psychological IPV ($8.9\%^{53}-83.3\%^{80}$), controlling behaviors ($1.8\%^6-60\%^9$), isolation ($5.4\%^6-30\%^9$), stalking ($0.8\%^{40}-28.6\%^{60}$), and abuse targeting gender identity ($17.6\%^{64}-73.3\%^9$) (reference periods vary; see Appendix B, Table C for details). These forms of abuse were usually as or more prevalent than physical or sexual IPV.

Transgender vs Cisgender Disparities

Transgender participants were 1.66 times more likely to experience any IPV than were cisgender participants (95% confidence interval [CI] = 1.36, 2.03) across 20 studies enrolling 3023 transgender and 277 399 cisgender participants (Figure 1).^{6,7,23,24,30,40,48,52,53,56,85,88} Transgender participants were more than twice as likely to experience both physical IPV (risk ratio [RR] = 2.19; 95% CI = 1.66, 2.88; n = 5962 transgender participants; n = 385 059 cisgender participants across 21 studies; Figure 2) and sexual IPV (RR = 2.46; 95% CI = 1.64, 3.69; n = 2972 transgender participants;

TABLE 1—Prevalence of Any, Physical, or Sexual Intimate Partner Violence Victimization by Recall Period Among Transgender Individuals

Article	Recall Period	Gender	Any IPV, % (No./Total No.)	Physical IPV, % (No./Total No.)	Sexual IPV, % (No./Total No.)	
Lifetime						
Bazargan and Galvan ⁴⁴	Lifetime	AMAB TG	56.8 (125/220)	NA	NA	
Castro et al. ^{33,a}	Lifetime	AMAB TG	26.7 (8/30)	NA	NA	
De Boni et al. ^{34,a}	Lifetime	AMAB TG	41.7 (10/24)	37.5 (9/24)	NA	
DeVylder et al. ^{80,a}	Lifetime	TG (NS)	83.3 (5/6)	66.7 (4/6)	66.7 (4/6)	
Fernández-Rouco et al. ²²	Lifetime, aged >14 y	AMAB TG, AFAB TG	NA	NA	5.0 (6/120)	
FORGE ³⁸	Lifetime	AMAB TG	Dating violence: 5.8 (8/138) IPV/DV: 29.0 (40/138)	NA	NA	
FORGE ³⁸	Lifetime	AFAB TG	Dating violence: 23.3 (47/202) IPV/DV: 36.1 (73/202)	NA	NA	
FORGE ³⁸	Lifetime	TG (NS)	Dating violence: 31.9 (29/91) IPV/DV: 38.5 (35/91)	NA	NA	
Garthe et al. ⁶⁴	Lifetime	AMAB TG	41.7 (78/187)	NA	16.0 (30/187)	
Goldenberg et al.65	Lifetime	AMAB TG	43.6 (34/78)	NA	NA	
Goldenberg et al.65	Lifetime	AFAB TG	30.4 (7/23)	NA	NA	
Goldenberg et al.65	Lifetime	NB	60.0 (18/30)	NA	NA	
Henry et al. ^{66,a}	Lifetime	AMAB TG	72.4 (21/29)	34.5 (10/29)	17.2 (5/29)	
Henry et al. ^{66,a}	Lifetime	AFAB TG	76.9 (20/26)	61.5 (16/26)	46.2 (12/26)	
Henry et al. ^{66,a}	Lifetime	NB	65.2 (15/23)	30.4 (7/23)	34.8 (8/23)	
Holt ^{42,a}	Lifetime	AMAB TG, AFAB TG	NA	16.2 (55/340)	NA	
Holt ^{43,a}	Lifetime	AMAB TG, AFAB TG	NA	14.8 (26/176)	NA	
James et al. ¹⁵	Lifetime	AMAB TG, AFAB TG, NB	53.1 (14217/26 780)	34.4 (9333/27 166)	19.3 (5316/27 557)	
Kattari et al. ⁵⁰	Lifetime	AMAB TG, AFAB TG, NB	37.8 (2438/6456) ^b	NA	NA	
Keuroghlian et al. ^{51,c}	Lifetime	AMAB TG, AFAB TG	33.1 (150/452)	NA	NA	
Logie et al. ^{11,a}	Lifetime	AMAB TG	37.5 (51/136)	NA	NA	
Logie et al. ²⁸	Lifetime	TG (NS)	10.0 (1/10)	NA	NA	
Langenderfer-Magruder et al. ⁵²	Lifetime	AMAB TG, AFAB TG	31.1 (38/122)	NA	NA	
Martinez-Velez et al. ⁶⁷	Lifetime	AMAB TG, AFAB TG, TG (NS)	55.8 (29/52)	NA	NA	
McDowell et al. ^{78,d}	Lifetime	AFAB TG	66.4 (99/149)	NA	NA	
Mimiaga et al. ⁶⁸	Lifetime	AMAB TG	41.7 (78/187)	NA	NA	
Nemoto et al. ⁵⁸	Lifetime	AMAB TG	NA	22.0 (125/568)	NA	
Peitzmeier et al. ^{87,d}	Lifetime	AFAB TG	NA	39.5 (58/147)	51.0 (75/147)	
Pitts et al. ²³	Lifetime	AMAB TG	36.4 (24/66)	16.7 (11/66)	3.0 (2/66)	
Pitts et al. ²³	Lifetime	AFAB TG	61.8 (21/34)	26.5 (9/34)	8.8 (3/34)	
Qureshi et al. ⁵⁶	Lifetime	AMAB TG, AFAB TG	6.3 (2/32)	NA	NA	
Reisner et al. ⁸⁵	Lifetime	AMAB TG, AFAB TG	25.8 (8/31)	NA	NA	
Reisner et al. ^{91,c}	Lifetime	AFAB TG	41.0 (71/173)	NA	NA	
Risser et al. ⁵⁷	Lifetime	AMAB TG	NA	50 (34/67) ^e	25 (17/67) ^e	

Continued

TABLE 1—Continued					
Article	Recall Period	Gender	Any IPV, % (No./Total No.)	Physical IPV, % (No./Total No.)	Sexual IPV, % (No./Total No.)
Roch et al.9	Lifetime	AMAB TG, AFAB TG 80.0 (48/60) 45.0 (27/60)		45.0 (27/60)	46.7(28/60)
Salazar et al. ⁵⁸	Lifetime	AMAB TG	NA	55.4 (51/92)	NA
Swan et al. ^{37,a}	Lifetime	AMAB TG	NA	37.5 (3/8)	50.0 (4/8)
Taliaferro et al. ^{74,a}	Lifetime	AMAB TG	22.9 (134/585)	10.4 (61/587)	13.0 (76/585)
Taliaferro et al. ^{74,a}	Lifetime	AFAB TG	30.1 (410/1362)	10.5 (143/1362)	18.2 (249/1368)
Turell ⁶⁰	Lifetime	AMAB TG	NA	42.9 (3/7)	28.6 (2/7)
Veale et al. ²⁶	Lifetime	AMAB TG, AFAB TG	27.0 (203/751) ^e	NA	NA
White Hughto et al. ^{90,c}	Lifetime	AMAB TG, AFAB TG	33.3 (137/412)	NA	NA
Wilton et al. ^{76,a}	Lifetime	AMAB TG	15.4 (2/13)	NA	NA
Yamanis et al. ^{77,a}	Lifetime	AMAB TG	50.0 (19/38)	21.1 (8/38)	23.1 (9/39)
Zhang et al. ⁷	Lifetime	AMAB TG	65.6 (40/61)	NA	NA
		Past year			
Bukowski et al. ^{92,f}	Past year	AMAB TG	NA	44.7 (220/492)	NA
Clements-Nolle et al. ⁴⁶	Past year	AMAB TG, AFAB TG	NA	18.9 (36/190)	NA
Griner et al. ^{93,g}	Past year	TG (NS)	NA	10.3 (21/204)	10.8 (22/204)
Hoxmeier ⁹⁴	Past year	AMAB TG, AFAB TG	NA	3.8 (3/79)	6.3 (5/79)
Johns et al. ^{82,h}	Past year	TG (NS)	NA	33.8 (593/1752)	29.1 (374/1287)
Langenderfer-Magruder et al. ^{62,a}	Past year	AMAB TG, AFAB TG	60 (9/15)	NA	NA
Mizuno et al.53	Past year ⁱ	AMAB TG	3.7 (7/166) ^b	NA	NA
Scheer et al. ^{72,a}	Past year	AMAB TG	NA	15.6 (5/32)	9.4 (3/32)
Scheer et al. ^{72,a}	Past year	AFAB TG	NA	19.0 (12/63)	15.9 (10/63)
Scheer et al. ^{72,a}	Past year	NB	NA	16.1 (22/137)	13.1 (18/137)
Scheer et al. ^{72,a}	Past year	TG (NS)	NA	16.1 (10/62)	11.3 (7/62)
Smith et al. ⁵⁹	Past year	AMAB TG	NA	NA	3.2 (2/63)
Sterzing et al. ⁷³	Past year	AMAB TG	NA	11.8 (2/19) ^j	NA
Sterzing et al. ⁷³	Past year	AFAB TG	NA	15.1 (7/47)	NA
Sterzing et al. ⁷³	Past year	AMAB NB	NA	14.7 (7/52)	NA
Sterzing et al. ⁷³	Past year	AFAB NB	NA	12.6 (24/189)	NA
Valentine et al. ⁶	Past year	AMAB TG	12.1 (19/157)	8.9 (14/157)	7.6 (12/157)
Valentine et al. ⁶	Past year	AFAB TG	6.6 (11/167)	4.8 (8/167)	3.0 (5/167)
Valentine et al. ⁶	Past year	NB	8.2 (16/194)	5.2 (10/194)	5.2 (10/194)
Valentine et al. ⁶	Past year	TG (NS)	9.1 (18/197)	5.6 (11/197)	5.1 (10/197)
Walls et al. ⁷⁵	Past year	AMAB TG	NA	39.7 (25/63)	NA
Walls et al. ⁷⁵	Past year	AFAB TG	NA	27.5 (28/102)	NA
Walls et al. ⁷⁵	Past year	NB	NA	48.5 (32/66)	NA
Whitfield et al. ^{83,g}	Past year	TG (NS)	NA	10.0 (20/201)	10.4 (21/201)
Woulfe et al. ^{17,a}	Past year	TG (NS)	NA	9.2 (13/142)	11.3 (16/142)
Zalla et al. ^{36,a}	Past year	AMAB TG	NA	33.9 (37/109)	NA

Continued

Article	Recall Period	Gender	Any IPV, % (No./Total No.)	Physical IPV, % (No./Total No.)	Sexual IPV, % (No./Total No.		
Other recall periods							
Askevis-Leherpeux et al. ^{29,a}	During an "index period" during which gender incongruence or distress may have been particularly prominent	AMAB TG, AFAB TG	8.7 (6/69)	NA	NA		
Bhochhibhoya et al. ^{79,a}	By current or recent dating partner while in college	TG (NS)	NA	NA	37.5 (3/8)		
Campbell et al. ^{31,a}	During an "index period" during which gender incongruence or distress may have been particularly prominent	AMAB TG, AFAB TG	3.5 (2/57)	NA	NA		
Cantor et al. ⁴⁰	Since enrollment (graduate students)	AMAB TG, AFAB TG	17.8 (87/490)	8.6 (42/490)	NA		
Cantor et al. ⁴⁰	Since enrollment (undergraduates)	AMAB TG, AFAB TG	22.8 (207/908)	9.7 (88/908)	NA		
Cantor et al. ⁴⁰	Since start of 2014 term (graduate students)	AMAB TG, AFAB TG	10.2 (50/490)	NA	NA		
Cantor et al. ⁴⁰	Since start of 2014 term (undergraduates)	AMAB TG, AFAB TG	15.3 (139/908)	NA	NA		
Dank et al. ⁹⁵	Ever with current or most recent partner	AMAB TG, AFAB TG	NA	88.9 (16/18)	61.1 (11/18)		
Edwards et al. ^{47,a}	Past 2 y	NB	NA	30.4 (7/23)	NA		
Edwards et al. ^{47,a}	Past 2 y	AMAB TG	NA	50.0 (2/4)	NA		
Edwards et al. ^{47,a}	Past 2 y	AFAB TG	NA	40.0 (4/10)	NA		
Fedina et al. ^{81,a}	Since enrollment	TG (NS)	NA	NA	NA		
Flentje et al. ⁴⁸	Current	AFAB TG	30.8 (4/13)	NA	NA		
Flentje et al. ⁴⁸	Current	AMAB TG	13.6 (3/22)	NA	NA		
Guadamuz et al. ⁸	Other	AMAB TG	NA	NA	4.2 (20/474)		
Lane et al. ^{30,a}	Past 6 mo	AMAB TG	0 (0/6)	NA	NA		
Logie et al. ⁹⁶	Adulthood	AMAB TG	26.5 (36/137)	NA	NA		
Nemoto et al. ⁵⁴	Ever, aged <18 y	AMAB TG	NA	NA	2.5 (14/564)		
Nemoto et al. ⁵⁴	Adulthood	AMAB TG	NA	NA	4.9 (28/568)		
Odo and Hawelu ⁵⁵	Other	AMAB TG	20.0 (20/100) ^k	NA	NA		
Parsons et al. ⁶⁹	Past 5 y	AMAB TG	65.1 (138/212)	NA	NA		
Petering et al. ^{70,a}	Past 3 mo	AMAB TG	NA	0 (0/3)	NA		
Reuter et al. ^{88,1}	Up to 3 partners in the past 6 mo	AMAB TG	66.7 (6/9)	44.4 (4/9)	NA		
Reuter et al. ^{88,1}	Up to 3 partners in the past 6 mo	AFAB TG	0 (0/7)	0 (0/7)	NA		
Robles et al. ^{35,a}	During an "index period" during which gender incongruence or distress may have been particularly prominent	AMAB TG, AFAB TG, NB	11.2 (28/250)	NA	NA		
Sinha et al. ³²	Past 3 mo	AMAB TG	NA	NA	5.6 (5/90)		
Smith et al. ⁵⁹	Adolescence (aged 12–17 y)	AMAB TG	NA	NA	3.2 (2/63)		
Smith et al. ⁵⁹	Adulthood (aged \geq 25 y)	AMAB TG	NA	NA	9.5 (6/63)		
Smith et al. ⁵⁹	Young adulthood (aged 18–24 y)	AMAB TG	NA	NA	15.9 (10/63)		
Spittal et al. ^{24,a}	Other	AMAB TG, AFAB TG	5.7 (5/88) ^b	NA	NA		
Whitton et al. ^{61,a,l}	Up to 3 partners in the past 6 mo at any of 6 study visits	AMAB TG	66.7 (8/12)	50.0 (6/12)	50.0 (6/12)		

Continued

TABLE 1—Continued						
Article	Recall Period	Gender	Any IPV, % (No./Total No.)	Physical IPV, % (No./Total No.)	Sexual IPV, % (No./Total No.)	
Whitton et al. ^{61,a,l}	Up to 3 partners in the past 6 mo at any of 6 study visits	AFAB TG	50.0 (4/8)	50.0 (4/8)	25.0 (2/8)	
Zakrison et al. ⁹⁷	Current	AMAB TG, AFAB TG	100.0 (1/1)	NA	NA	
Zhang et al. ^{7,a}	Ever with current partner	AMAB TG	NA	31.0 (9/29)	61.9 (13/21)	

Note. AFAB = assigned-female-at-birth; AMAB = assigned-male-at-birth; DV = domestic violence; IPV = intimate partner violence; NA = information not available; NB = nonbinary or genderqueer; SAB = sex assigned at birth; TG = transgender; TG (NS) = transgender (not specified)—transgender, but gender identity or SAB of participants not available. Articles with prevalence estimates for multiple recall periods or populations are reported on multiple rows. Samples of exclusively IPV survivors reporting prevalence of specific types of IPV (e.g., Heintz et al.⁴⁹ and Scheer and Baams⁷¹) are not included as any IPV prevalence is 100%. "Any IPV" indicates either a single question that includes multiple types of IPV (e.g., "Has your partner hit you or forced you to have sex?") or a summary measure of IPV across multiple types of IPV assessed in the study. Studies with AMAB TG or AFAB TG participants may include NB participants. Gender is standardized across studies as AMAB TG, AFAB TG, or NB regardless of language the original study may have used around gender (e.g., "transmasculine individuals" or "transgender women") for greater consistency.

^aSome prevalence data not published in article; authors provided data upon contact.

^bPrevalence defined as percentage of individuals who accessed a domestic violence service. Other articles that used the same data set (the National Transgender Discrimination Survey) were not reported again in this table.

^cArticles used the same data set.

^dArticles used the same data set.

^ePrevalence given in article, number/total number is approximate.

^fBukowski et al.⁹² article with larger sample size represented in Table 1 because the other Bukowski et al.⁶³ article uses a subsample from the same data set. ⁹Articles use the same data set and, therefore, Whitfield et al.⁸³ sample is not represented in the text of the results when summarizing findings around past-year prevalence, to avoid double-counting this study sample.

^hWeighted prevalence estimates reported by Johns et al.⁸² in the article were 26.4% for physical IPV and 22.9% for sexual IPV. Raw data were obtained from the authors.

ⁱRecall period vague in article.

^jSterzing et al.⁷³ used multiple imputation to report prevalence estimates. Numerators are approximated by applying the percentage to the reported sample size (denominator) and rounding.

^k"By informal count" "at least 20" of 100 transgender participants experienced IPV.

^lArticles used the same data set.

n = 177 177 cisgender participants across 15 studies; Figure 3) as compared with cisgender participants. Cisgender comparison groups for studies in these meta-analyses were (1) lesbian, gay, and bisexual (LGB) men and women^{17,23,37,52,56,60–62,72,73,88,96}; (2) men and women living with HIV or other populations with a higher-than-populationaverage proportion of LGB individuals^{6,33,} ^{36,48,53,59,70,85}; (3) men who have sex with men^{7,30,34}; or (4) general population men and women.^{24,28,40,42,43,75,79,80,82,93–95,98} Transgender participants had greater IPV disparities compared with cisgender men, than compared with cisgender women, but had significantly higher IPV prevalence compared with both groups (Appendix C, Figures B-G). School-based samples of middle-school, high-school, or college students were some of the largest studies and featured the largest transgender-cisgender disparities in physical IPV (RR = 2.89; 95% CI = 2.20, 3.80; Appendix C, Figure H) and sexual IPV

(RR = 3.91; 95% CI = 2.74, 5.59; Appendix C, Figure I).

Sixteen studies measured psychological or other forms of IPV in transgender and cisgender participants.^{6,7,17,23,37,40,41,60,71,72,83, 88,93–95,98} Psychological or other forms of IPV were significantly more prevalent for transgender than for cisgender participants^{6,7,23,40,41,83,93–95} in some studies, but differences were not significant in others.^{17,37,71,72,98}

Demographic and Health Correlates

There was no significant difference in the prevalence of any IPV (RR = 0.88; 95% CI = 0.68, 1.14; n = 1087 AMAB participants; n = 1835 AFAB participants), physical IPV (RR = 1.02; 95% CI = 0.77, 1.34; n = 1018 AMAB participants; n = 2007 AFAB participants), or sexual IPV (RR = 0.57; 95% CI = 0.27, 1.20; n = 869 AMAB participants; n = 1658 AFAB participants) between AMAB and AFAB participants (Appendix C, Figures J–L). Just 7 studies provided disaggregated prevalence estimates for nonbinary and binary transgender participants.^{6,47,65,66,72,73,75} There was no significant difference in physical IPV victimization between nonbinary and binary transgender participants (Appendix C, Figure M; RR = 1.03; 95% CI = 0.74, 1.44; n = 661 nonbinary participants; n = 664 binary participants across 5 studies).

IPV victimization was associated with disability,¹⁵ homelessness,¹⁵ immigration status,¹⁵ race/ethnicity^{15,54} (though not in all studies⁶⁵), incarceration,⁶⁵ and undergraduate versus graduate status (Appendix B, Table D).⁴⁰ IPV victimization was not associated with social gender transition⁹¹ or selfesteem.^{45,65} IPV victimization was associated with bullying,⁹⁰ family assault,⁹⁰ family harassment,⁹⁰ general victimization,⁶⁵ and everyday discrimination⁹⁰ (depending on model parameters⁹¹).



Note. CI = confidence interval; RR = risk ratio.

FIGURE 1—Forest Plot Comparing Prevalence of Any Intimate Partner Violence Victimization Between Transgender and Cisgender Participants Across 20 Studies That Included Transgender and Cisgender Participants

Eleven studies^{11,15,45,46,51,58,63,65,90–92} measured associations between some type of IPV and sexual health, substance use, or mental health outcomes in a population of transgender individuals (Appendix B,

Table E). Any IPV victimization is significantly associated with sexual risk measures (partner count,⁹¹ transactional sex,^{11,15,65} sexually transmitted infection diagnosis,⁹¹ unprotected sex^{45,91}), substance use (recent substance use,⁵¹ polysubstance abuse,⁴⁵ substance use treatment⁵¹), and mental health (depression,⁹⁰ posttraumatic stress disorder,⁹¹ avoidant coping⁹⁰) in transgender populations. There was mixed evidence of an association

Study	Trans % (Total No.)	Cis % (Total No.)	Risk Ratio	RR (95% CI)	Weight
Cantor et al. ⁴⁰ Dank et al. ⁹⁵ De Boni et al. ³⁴ DeVylder et al. ⁸⁰ Griner et al. ⁹³ Holt ² Holt ³ Johns et al. ⁸² Petering et al. ⁷⁰ Pitts et al. ²³ Scheer et al. ⁵² Sterzing et al. ⁷³ Swan et al. ³⁷ Turell ⁶⁰ Valentine et al. ⁶ Walls et al. ⁷⁵ Whitton et al. ⁶⁶ Woulfe and Goodman ¹⁷ Zalla et al. ³⁶	$\begin{array}{c} 9.3 \ (1 \ 398) \\ 88.9 \ (18) \\ 37.5 \ (24) \\ 66.7 \ (6) \\ 10.3 \ (204) \\ 16.2 \ (340) \\ 14.8 \ (176) \\ 3.8 \ (79) \\ 33.8 \ (1752) \\ 0.0 \ (3) \\ 20.0 \ (100) \\ 16.7 \ (294) \\ 13.3 \ (307) \\ 37.5 \ (8) \\ 42.9 \ (7) \\ 6.0 \ (715) \\ 36.8 \ (231) \\ 50.0 \ (20) \\ 33.8 \ (142) \\ 33.9 \ (109) \\ 31.0 \ (29) \end{array}$	3.7 (147822) 29.6 (3724) 5.5 (397) 29.5 (994) 2.1 (82334) 6.5 (17502) 5.9 (15880) 1.9 (19493) 7.5 (70150) 1.2 (418) 14.6 (5358) 22.9 (755) 11.3 (867) 26.4 (91) 50.0 (492) 2.2 (6857) 8.6 (8987) 28.8 (226) 26.1 (591) 23.3 (1510) 16.0 (611)		$\begin{array}{c} 2.49 \ (2.11, 2.93)\\ 3.00 \ (2.53, 3.56)\\ 6.77 \ (3.51, 13.05)\\ 2.26 \ (1.27, 4.01)\\ 4.99 \ (3.32, 7.50)\\ 2.49 \ (1.94, 3.19)\\ 2.50 \ (1.75, 3.59)\\ 1.97 \ (0.65, 6.02)\\ 4.49 \ (4.18, 4.82)\\ 10.87 \ (0.73, 161.28)\\ 1.37 \ (0.92, 2.04)\\ 0.73 \ (0.55, 0.97)\\ 1.18 \ (0.84, 1.66)\\ 1.42 \ (0.55, 3.71)\\ 0.86 \ (0.36, 2.03)\\ 2.71 \ (1.95, 3.77)\\ 4.28 \ (3.57, 5.13)\\ 1.74 \ (1.07, 2.82)\\ 1.30 \ (0.99, 1.69)\\ 1.46 \ (1.10, 1.92)\\ 1.93 \ (1.09, 3.43)\\ \end{array}$	5.7% 5.6% 4.3% 4.6% 5.1% 5.2% 5.2% 5.7% 5.7% 5.7% 5.3% 5.3% 5.3% 5.6% 4.9% 5.5% 5.4% 4.6%
Random effects model	(5 962)	(385059)	\&	2.19 (1.66, 2.88)	100.0%
Heterogeneity: I ² =95%; r	$t^2 = 0.3391; P <$.01 0.01	0.1 1 10 100		

Note. CI = confidence interval; IPV = intimate partner violence; RR = risk ratio. Whitton et al.⁶¹ provided transgender prevalence data, but not cisgender prevalence data, upon request. Cisgender prevalence is estimated by applying their reported adjusted odds ratio of 2.46 (95% CI = 1.24, 4.92). Reuter et al.⁸⁸ reported comparison data, but it is not included because it was published in an earlier report with a smaller sample size from the same data set as Whitton et al.⁶¹ Whitfield et al.⁸³ and Griner et al.⁹³ used data from the same study; only Griner et al.⁹³ was included in the meta-analysis. Woulfe et al.¹⁷ included past-year and adult IPV. The estimates for adult IPV were included because they had the greatest number of events for estimate stability. Johns et al.⁸² and Zalla et al.³⁶ provided unweighted prevalence data; the raw number/total number is reported here and differs from weighted prevalence percentage reported in the original articles.

FIGURE 2—Forest Plot Comparing Prevalence of Physical Intimate Partner Violence Victimization Between Transgender and Cisgender Participants Across 21 Studies That Included Transgender and Cisgender Participants



Note. CI = confidence interval; IPV = intimate partner violence; RR = risk ratio. Johns et al.⁸² provided unweighted prevalence data; the raw number/total number is reported here and differs from weighted prevalence percentage reported in the original article. Smith et al.⁵⁹ included estimates for victimization during adolescence, young adulthood, and past year. The estimates for young adulthood were included here because they had the greatest number of events for estimate stability. Results were qualitatively similar when other time periods were used in a sensitivity analysis. Whitfield et al.⁸³ and Griner et al.⁹³ used data from the same study; only Griner et al.⁹³ was included in the meta-analysis. Woulfe et al.¹⁷ included past-year and adult IPV. The estimates for adult IPV were included because they had the greatest number of events for estimate stability. Whitton et al.⁶¹ provided transgender prevalence data but not cisgender prevalence data when requested from the authors. Cisgender prevalence was estimated by applying their reported adjusted odds ratio of 3.42 (95% CI = 1.85, 6.33).

FIGURE 3—Forest Plot Comparing Prevalence of Sexual IPV Victimization Between Transgender and Cisgender Participants Across 15 Studies That Included Transgender and Cisgender Participants

between any IPV victimization and HIV status. $^{\rm 45,65}$

Physical IPV victimization was associated in individual studies with HIV viral suppression, ⁶³ sex work, ¹⁵ and depressive symptoms, ⁹² but unassociated with HIV status, ⁶⁵ HIV diagnosis, ⁶³ and inconsistent condom use. ⁴⁶ No study examined health correlates of sexual IPV, and just 1 reported any correlates of psychological or other forms of IPV. ¹⁵

Perpetration by Transgender Individuals

Four small studies (n = 8^{37} – 38^{47}) measured IPV perpetration by transgender participants (Appendix B, Table F).^{37,47,85,95} Two studies noted that while transgender individuals (n = 17 and n = 31) reported higher prevalence of victimization compared with cisgender participants, they also reported higher perpetration.^{85,95}; 1 study found no significant difference in perpetration.³⁷

Service Provision to Transgender Populations

We did not identify any study that developed or tested an IPV prevention intervention with transgender participants. Twelve studies provided data on IPV service provision to transgender survivors (Appendix B, Table G).^{15,23,25,27,50,52,53,71,84,99–101}

Discrimination at domestic violence shelters was common and significantly associated with being AMAB versus AFAB, 15,99 being perceived as transgender,¹⁰⁰ having a disability,⁵⁰ and identifying as American Indian, multiracial, or Latino versus White.⁵⁰ Ford et al. found that service providers (ranging from shelter staff to law enforcement officials) reported feeling uncomfortable serving transgender clients,¹⁰¹ and Du Mont et al. found that sexual assault forensic nurses were unprepared to work with transgender patients,27 though Riggs et al. demonstrated that a training intervention can increase service providers' skills in working with transgender women.25

DISCUSSION

Evidence synthesized in this review demonstrates that transgender individuals are at 2 to 3 times higher risk of physical and sexual IPV compared with cisgender individuals, regardless of SAB. Several studies also suggest high risk of psychological and other forms of IPV, including a growing number that document trans-specific forms of IPV. Echoing research in cisgender men and women in which gender disparities in victimization are most pronounced for sexual IPV and less pronounced for physical and psychological IPV,² we found the largest gender disparities between transgender and cisgender populations were in sexual IPV victimization. However, transgender individuals were still more than twice as likely as were cisgender individuals to experience even physical IPV. Population-level IPV disparities may be even higher than estimated in this review, as LGB individuals were overrepresented in most cisgender comparison samples; LGB populations may have elevated IPV prevalence relative to heterosexuals.⁴ Indeed, studies with some of the largest disparities came from large, school-based samples in which the cisgender comparison group included mostly heterosexual individuals.^{42,43,75,82,83,93} Our review demonstrates that IPV is a risk factor for multiple health conditions, including poor sexual health, poor mental health, and substance use in transgender populations. The high IPV prevalence documented in this review indicates an urgent need for research and interventions for primary and secondary prevention of IPV in transgender populations.

Although this review identifies substantive research on IPV in transgender populations, the literature is still emerging, with the majority of studies occurring within the past 10 years in high-income settings. Because considerable funding for both transgender health and violence research comes from HIV funding, study populations were disproportionately high risk and AMAB. Despite this, the largest studies were communitybased or school-based surveys that enrolled transgender communities broadly, not just those most at risk for HIV. Studies recruited from diverse and oftentimes multiple sites; IPV prevalence can vary greatly by site, representing a potential source of bias. However, we are not aware of any population-based violence-focused survey, from the Demographic and Health Surveys domestic violence module to the US National Intimate Partner Violence and Sexual Violence Survey, that assesses transgender identity and has the sample size to report transgender-specific estimates. Just 2 representative population-based studies were included in this review; both were high-school based samples with nonvalidated gender identity measures and limited focus on violence.75,82

Until the systematic exclusion of transgender individuals from population-based surveillance ends (i.e., until gender identity measures are routinely included in population-based violence surveys, violence measures that have been validated in transgender populations are created and included in population-based surveys, interviewers are trained to work respectfully with transgender participants, and investment in oversampling occurs to allow for reporting of transgender-specific prevalence estimates), transgender individuals will not have access to the same level of evidence around IPV that cisgender individuals do. Until such a time, large surveys with multipronged community-engaged recruitment strategies (e.g., US Transgender Survey¹⁵) represent compelling evidence.

Extant literature on IPV in transgender populations is hampered by numerous limitations. First, disaggregated information is often not provided for transgender and cisgender individuals when they are enrolled in the same study. There were 45 additional articles we could not include because of lack of disaggregated data. There is also significant heterogeneity in how transgender and IPV are defined, making it difficult to compare study populations and outcomes. Worst are studies in which the interviewer assigns the participant gender based on appearance,⁸ but even single-item assessments, such as providing gender options of "male," "female," and "transgender," can result in substantial misclassification bias.¹⁰²

One fifth of studies used nonbehavioral measures of IPV-known to underestimate prevalence compared with measures that ask about specific abusive behaviors¹⁰³—or did not state the source of their measures. Even validated behavioral measures may underestimate prevalence in transgender populations, as they were developed for heterosexual cisgender women and may lack content validity.87,104 Research to validate IPV measures for lesbian, gay, bisexual, transgender, or queer populations broadly^{17,72} or transgender populations specifically⁸⁷ is nascent. Lack of interviewer training in sensitively assessing IPV, particularly with transgender individuals, may have resulted in underestimation of IPV prevalence, perhaps differentially in transgender individuals. Standardizing measures of IPV will decrease heterogeneity, and more attention to disaggregated prevalence estimates for transgender subpopulations (e.g., AMAB, AFAB; nonbinary; racial/ethnic groups) in future research will allow for less heterogeneous estimates of prevalence by subpopulation.

We did not identify any study that developed or tested the efficacy of transgender-specific IPV primary prevention interventions. IPV prevention often focuses on school- and college-aged individuals broadly or cisgender women specifically.¹⁰⁵ Evidence suggests that IPV victimization may be high over the life course for transgender individuals, with IPV disparities already emerging in middle and high school– $^{28,42,43,73-75,82,95}$ and college-aged 40,83,93,94 transgender individuals, making interventions aimed at adolescents critical. Peer education around what IPV looks like for transgender communities may prevent abuse and empower survivors. Some HIV prevention interventions for transgender women incorporate healthy relationship modules¹⁰; such studies could be leveraged to include a greater focus on IPV prevention. Interventions that

have been shown to reduce IPV against cisgender women in global settings, such as community mobilization, economic empowerment, and cash transfer interventions, ¹⁰⁶ could be adapted for transgender individuals, albeit with careful implementation research to address the potential for increasing abuse depending on local context. Structural interventions, such as laws reducing barriers to legal name and gender marker changes or antidiscrimination legislation within housing and employment, could reduce vulnerability to IPV by increasing access to resources and decreasing dependency on abusive partners.

In secondary IPV prevention and response, more research is needed on service provision to transgender IPV survivors, including interventions with providers that can improve quality of care. Only 1 US study²⁵ tested an intervention to improve transgender competency among domestic violence service providers and police, despite documentation of extensive maltreatment.¹⁵ Innovative community-based IPV response in high- and low-income settings could include "crisis response teams" (similar to those that have been formed within sex worker communities), transgender survivor support groups, and self-help materials created by and for transgender survivors. Health care providers are the most common people that cisgender women first disclose to when seeking formal help for IPV,⁵ but clinical settings are often sites of abuse and revictimization for transgender individuals.¹⁵ The US Preventive Services Task Force only recommends routine IPV screening in primary care settings for "women of childbearing age"¹⁰⁷; similarly, the World Health Organization's 2013 clinical recommendations make no mention of transgender individuals.5 Making clinical guidelines and clinical care more inclusive for transgender patients is critical.

Despite calls in the violence literature to intervene with abusive partners rather than victims,¹⁰⁶ no studies included in the review explored the characteristics of abusive partners for transgender victims of IPV. In addition, only 4 small studies measured IPV perpetration by transgender individuals. Despite their advantages, behavioral measures of IPV have been criticized for giving the impression that cisgender women and men perpetrate IPV equally, even though women are more likely to use violence in self-defense and are less likely to cause injury or psychological impact.¹⁰⁸ This fundamental critique applies to the 3 articles that compared cisgender and transgender participants' IPV perpetration.^{37,85,95} Work to understand typologies of IPV, the prevalence of bidirectional violence, and how minority stress may affect violence perpetration in transgender populations will develop our understanding of this area.

While it is clear that transgender individuals are at greater risk of IPV than cisgender individuals, few studies examined demographic correlates of IPV within transgender communities. Twenty-eight unique data sets had more than 150 transgender participants and could support subgroup and risk factor analyses. Rather than viewing transgender individuals as a homogenous group, an intersectional lens should be used to understand how SAB, nonbinary gender identity, sexual orientation, race/ethnicity, disability, and other social categories may synergistically affect IPV risk within transgender communities. Medical and social transition status, examined in only 1 study,⁹¹ are key correlates to explore to identify potential critical periods for intervention. While there was no evidence of a significant difference in sexual IPV prevalence in AMAB compared with AFAB transgender individuals or in physical IPV prevalence in binary compared with nonbinary transgender individuals, only 5 studies informed each of these comparisons; more data are needed to understand whether a disparity truly exists.

Psychological and other forms of IPV (e.g., financial abuse, stalking) were, in some studies, more prevalent among transgender than cisgender participants. These types of IPV were less frequently measured than physical or sexual IPV. In cisgender populations, psychological IPV has gained attention as a driver of negative mental, physical, and sexual health outcomes of similar or greater magnitude than physical or sexual IPV.¹⁰⁹ Qualitative data suggest that psychological IPV may be a more prominent component of abuse against transgender than cisgender individuals, as abusers leverage trans-related vulnerability to gain power and control.¹⁹ This trans-specific IPV often co-occurs with, but differs from, physical and sexual IPV, and is associated with excess

mental health burden.⁸⁷ Greater study of the prevalence, context, and impact of psychological IPV in transgender populations is warranted.

The direction of the disparity observed between transgender and cisgender participants was consistent across studies: 20 out of 23 studies that measured physical or sexual IPV in transgender and cisgender individuals found greater prevalence of IPV in transgender than in cisgender participants. However, clinical, methodological, and statistical heterogeneity was substantial, resulting in variability in the magnitude of the disparity estimated by each study. In studies in which the cisgender comparison group was at relatively low baseline risk of IPV (e.g., primarily heterosexual male and female students), we observed disparities as great as 6.5 times greater risk in transgender individuals.93 In studies in which baseline prevalence of IPV in the whole population is already relatively high (e.g., among lesbian, gay, bisexual, and queer cisgender individuals recruited from IPV-related forums),¹⁷ transgender-cisgender disparities were smaller. Our metaanalytic estimates average across these diverse studies. Disparities may be smaller or greater than this meta-analytic average in a particular population of interest, depending on baseline rates of IPV in the population. Regardless of the precise magnitude of the disparity, the implications for practice are that clinicians and service providers should take additional care to screen for IPV and offer affirming services to this at-risk population.

A strength of this review was contacting authors for disaggregated prevalence data for transgender participants. The review presents data that are publicly available for the first time from more than 40% of included studies and leverages data from almost 50 000 transgender respondents across studies. Limitations of this review include lack of covariate adjustment in meta-analyses. Meta-analyses combine estimates from different populations of transgender individuals, yielding high heterogeneity and potentially obscuring differences in subpopulations by providing a single estimate of disparities between cisgender and transgender populations. English-language searches may have missed literature from non-Anglophone countries and results may not be applicable to lowincome settings.

Available evidence demonstrates that IPV is an epidemic facing transgender populations globally and highlights the existence of a dramatic disparity in physical and sexual IPV victimization between transgender and cisgender individuals, particularly cisgender men but also cisgender women. Physical, sexual, and mental health inequities²¹ faced by transgender individuals may be partially driven by these higher levels of violence. To address this critical public health and human rights concern, efforts are needed to develop transgender-specific, transgender-inclusive, and transgender-led interventions for IPV prevention, screening, reporting, and response in transgender populations worldwide. **AJPH**

CONTRIBUTORS

S. M. Peitzmeier conceptualized the review strategy, conducted statistical analyses, and drafted the majority of the article. M. Malik and S. K. Kattari drafted sections of the article. M. Malik and S. L. Reisner provided substantive input on article writing. S. M. Peitzmeier, M. Malik, S. K. Kattari, and E. Marrow conducted study screening and data extraction. M. Malik synthesized study characteristics and summarized the systematic article selection process. R. Stephenson, M. Agénor, and S. L. Reisner provided revisions and guidance. S. L. Reisner provided substantive input on search strategy and analytic plan.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

HUMAN PARTICIPANT PROTECTION

This study is a systematic review of published research and is not considered human participant research.

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