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Prevalence of Self-Reported Intimate Partner Violence Victimization among Military Personnel: A Systematic Review and Meta-Analysis

Background:

Research on intimate partner violence (IPV) in the military has tended to focus on military personnel as perpetrators and civilian partners/spouses as victims. However, studies have found high levels of IPV victimisation among military personnel. This article systematically reviews studies of the prevalence of self-reported IPV victimisation among military populations.

Methods:

Searches of four electronic databases (Embase, Medline, PsycINFO, Web of Science) were supplemented by reference list screening. Meta-analyses of the available data were performed, where possible, using the random effects model.

Results:

This review included twenty-eight studies with a combined sample of 69,808 military participants. Overall, similar or higher prevalence rates of physical IPV victimisation were found among males compared to females and this was supported by a meta-analytic subgroup analysis: pooled prevalence of 21% (95% CI: 17.4-24.6) among males and 13.6% among females (95% CI: 9.5-17.7). Psychological IPV was the most prevalent type of abuse, in keeping with findings from the general population. There were no studies on sexual IPV victimisation among male personnel. Evidence for the impact of military factors, such as deployment or rank, on IPV victimisation was conflicting.

Discussion:

Prevalence rates varied widely, influenced by methodological variation among studies. The review highlighted the lack of research into male IPV victimisation in the military and the relative absence of research into impact of IPV. It is recommended that future research

disaggregate results by gender and consider the impact of IPV, in order that gender differences can be uncovered.

Prevalence of Self-Reported Intimate Partner Violence Victimization among Military

Personnel: A Systematic Review and Meta-Analysis

Introduction

Intimate Partner Violence (IPV) victimisation is recognised as a global public health problem (World Health Organization, 2016), but remains an under-recognised health-related issue within military populations (Department of Health, 2017). The World Health Organisation (WHO) defines IPV as “*behaviour by an intimate partner or ex-partner that causes physical, sexual, or psychological harm, including physical aggression, sexual coercion, psychological abuse or controlling behaviours*”. The severe repeated nature of IPV negatively impacts on physical and mental health, and IPV has the highest rate of repeated victimisation of any violent crime (Dodd et al., 2004; Howard et al., 2010; Walby et al., 2015). Our recent review highlighted the burden of mental health need among military personnel who are victims of IPV (Sparrow et al., 2017). There is growing awareness within international Armed Forces communities of the need to identify and support those affected. Multiple studies have endeavoured to estimate the prevalence of IPV victimisation in military populations and among different military subgroups. These studies have varied greatly in terms of methodology, and the prevalence data has not been synthesised. A review of such research is needed in order to clarify the scale of the problem, the most prevalent type of IPV and subgroups most at risk. Such information will inform our understanding of the problem and the need for targeted support services.

There may be an increased risk of family dysfunction in military compared to civilian populations, as a result of the unique stresses associated with military life (Rentz et al., 2006). Specific aspects of military service have been shown to have negative consequences that can

impact on relationships and may increase risk of IPV (Clark & Messer, 2006). Frequent relocations and separations can disrupt family life, leading to general anxiety and tension between family members and relationship dissatisfaction (Blount et al., 1992; Drummet et al., 2003; Figley, 1993; Rentz et al., 2006). Operational deployments have been shown to increase risk of mental health problems such as Post Traumatic Stress Disorder (PTSD) and alcohol misuse (Fear et al., 2007; Hoge & Castro, 2006; Jacobson et al., 2008; Milliken et al., 2007), especially among those who are deployed in combat roles (Seal et al., 2009; Sundin et al., 2010), and psychological ill-health has been shown to increase problems in the family home (Sayers et al., 2009). Studies have shown increased risk of perpetration of physical violence towards family members among those returned from operational combat (Kwan et al., 2017; Sullivan & Elbogen, 2014) but also increased risk of victimisation (Jordan et al., 1992; MacManus et al., under review). Certain military subgroups may be more at risk of IPV victimisation. Deployment has been shown to have more negative consequences for reservists than regular personnel in terms of mental health problems (Lane et al., 2012), difficulties adjusting to homecoming and lower marital satisfaction ((Browne et al., 2007). Certain military characteristics such as service branch, rank, engagement status and having left service have been shown to be associated with a range of psychosocial outcomes such as relationship satisfaction (Hendrix et al., 1995; Riggs et al., 1998), mental health (Baker et al., 2009; Cameron et al., 2016; Hatch et al., 2013; Iversen et al., 2009; Sher et al., 2012) and risk of aggressive behaviour (Jordan et al., 1992; MacManus et al., 2012; MacManus et al., 2013; MacManus et al., 2015) and may impact on risk of IPV victimisation (Cantos et al., 1994; Foran et al., 2011; Lutgendorf et al., 2009; Marshall et al., 2005; Rosen et al., 2002a).

Research into IPV in the military has tended to focus on military personnel as perpetrators of IPV and civilian partners/spouses as victims (Jones, 2012; Rentz et al., 2006). This relative neglect of victimisation research in the military may reflect the under-recognition of male

victimisation within the male dominated military environment (Taylor et al., 2017). However, high levels of IPV victimisation have been found in some studies of military personnel, both male and female, serving and ex-serving (Cerulli et al., 2014; Dichter et al., 2011; Foran et al., 2014; Skomorovsky et al., 2015; Zamorski & Wiens-Kinkaid, 2013). Research in the general population in both the US and the UK has shown no gender difference in past-year physical IPV victimisation (CDCP, 2014). In order to uncover gender differences in IPV victimisation in military populations, research on victimisation must not be neglected and must be reviewed and the findings synthesised.

Research into IPV victimisation spans a wide time period. Rates of reported IPV victimisation may have changed over time, from before the US invasion of Iraq/Afghanistan (2001) to after, influenced by a range of military risk factors such as changes in intensity of deployment exposures (Baiocchi, 2013; Kane, 2016), as well as shifts in attitudes towards and awareness of IPV (Home Office, 2014; Ministry of Defence, 2015b). An understanding of the prevalence of IPV victimisation and how it might vary by gender and military characteristics such as era of service, service branch, rank, experience of operational deployment or serving status, is needed for risk assessment and for the development of services to meet the specific needs of military families. This study provides the first review of the prevalence of IPV victimisation among military populations.

Aims and Objectives

The aim of this study was to systematically review extant studies which have investigated the prevalence of self-reported IPV victimisation among military personnel (both serving and ex-serving). Furthermore, we aimed to examine the impact of gender and military characteristics, such as branch of service, engagement status (regular versus reserve), serving status (active duty versus veteran), rank, and experience of deployment or combat, on

prevalence rates. We were also interested in whether era of service (defined as pre-2001 and post-2001) influenced the reporting of IPV victimisation.

Method

A literature search for studies reporting the prevalence of self-reported IPV victimisation among military populations was undertaken. Searches of the following electronic databases were carried out: Embase, Medline, PsycINFO, Web of Science. This review followed PRISMA reporting guidelines and the protocol is registered with PROSPERO: registration CRD42016038800.

Studies were eligible for inclusion in the review if they: i) involved male and/or female serving or ex-serving military personnel; ii) reported the prevalence of self-reported IPV victimisation (or collected data from which a prevalence statistic could be calculated); iii) measured IPV using a validated tool or adapted question(s); iv) presented the results of peer reviewed research based on any quantitative study design capable of providing the data listed above. IPV was defined as “any incident of threatening behaviour, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners regardless of gender or sexuality” (Home Office, 2005). Quality appraisal of the included studies was conducted independently by two reviewers using a checklist adapted from validated tools (CASP UK, 2017; Downs & Black, 1998; Loney & Chambers, 2000; Saha et al., 2005; Wing, 1994). A third, more senior, reviewer was consulted in the instance of any scoring discrepancies. Studies that scored 50% or higher on criteria relating to selection bias were categorised as high quality. The 50% criterion was selected in order to identify studies with a lower risk of selection bias and on whose findings greater weight could be placed.

Qualitative and quantitative data (including prevalence data and information on study design, sample characteristics, and measurement tools used) were extracted from included studies separately for males and females, where possible.

Figure 1 describes the study selection process. Literature searches yielded 5629 unique references; 5580 were excluded following title and abstract screening and a further 21 were excluded following full-text screening. The remaining twenty-eight papers were included in this review. All twenty-eight papers were identified through searches of electronic databases. References identified through other sources (i.e. screening the reference lists of included studies) were all duplicates.

Insert figure 1 here

Study characteristics, methods and findings were collated and compared in order to determine the feasibility of completing a meta-analysis by exploring the homogeneity of the studies. Heterogeneity in definition and timing of measurement of IPV precluded a meta-analysis in most cases. Where a meta-analysis was appropriate, we estimated pooled prevalence with 95% confidence intervals (95% CIs) using a random-effects model that enabled us to assess heterogeneity between studies based on I^2 statistics (categorised as low, moderate, or high on the basis of I^2 values of 25%, 50%, and 75%, respectively). Studies that measured IPV over time periods other than the last 12 months were excluded from the meta-analysis. Studies were excluded from the meta-analysis if they measured IPV over time periods other than the last 12 months or contained data from overlapping samples. A number of studies were excluded as they were observed to be marked outliers which skewed the overall pooled prevalence and had significant methodological weaknesses which accounted for their findings: One study was excluded as it reported very high prevalence rates for all three types of IPV and was appraised to be at high risk of reporting bias as female participants reported on patterns of bidirectional violence between couples (Forgey & Badger, 2006); and a second

study was excluded as it reported unusually high past-year physical IPV prevalence and had a sample size of less than 100 female subjects (Rosen et al., 2002a); two further studies were excluded due to having highly selected samples of pregnant active duty females and extremely low past-year physical IPV prevalence rates of 2.8% and 3% respectively (Lutgendorf et al., 2012; Lutgendorf et al., 2009). We anticipated heterogeneity of effects. We aimed to conduct subgroup analyses by key variables hypothesised to influence prevalence estimates (i.e. gender, active duty versus veteran status, era of service). However, extensive heterogeneity among the limited number of studies precluded a subgroup analysis in most cases. We dichotomised era of service as pre-2001 and post-2001. The overall risk of bias rating for pooled prevalence estimates was calculated following the GRADE Working Group and Cochrane approaches (Dijkers, 2013). Risk of bias ratings of >-0.5 indicated a low risk of bias, -1 a serious risk of bias, and -2 a very serious risk of bias. These ratings corresponded with evidence that was of high, moderate, or low quality. Meta-analyses were conducted using the STATA 11 statistical package (StataCorp LP, College Station, Texas).

Results

Key Features of Included Studies

This review included twenty-eight studies with a combined sample of 69,808 military participants (see Tables 1 and 2 for study characteristics). Twenty-six studies reported findings from female participants and seven from males. All studies conducted in clinical settings used female-only samples ($n=7513$), mostly from VA clinics ($n=6903$). The most commonly used validated tool was the Conflict Tactics Scale (CTS). Seven of the studies were rated high quality, five of which focused on active duty service members (Belik et al., 2009; Foran et al., 2011; Heyman & Neidig, 1999; Skomorovsky et al., 2015; Zamorski & Wiens-Kinkaid, 2013), and two on veterans (Cerulli et al., 2014; Dichter et al., 2011). Of the

five studies that could be included in the meta-analysis, two provided evidence of high quality (Foran et al., 2011; Heyman & Neidig, 1999), one of moderate quality (Rosen et al., 2002b), whilst the others were rated as low quality (Iverson & Pogoda, 2015; Murdoch & Nichol, 1995).

Any IPV

Eight studies explored “any” self-reported IPV victimisation among military samples, three of which were classed as high quality (see table 3) (Cerulli et al., 2014; Dichter et al., 2011; Zamorski & Wiens-Kinkaid, 2013). Definitions of “any” IPV varied between studies (for example, “actual or threatened physical violence or unwanted sex”, or “any psychological, physical and/or sexual IPV”). All studies reported findings from female victims with one study reporting on male victims also.

Female victims.

Three studies measured past-year IPV (any type) and reported prevalence rates ranging from 12% to 25% (Iverson et al., 2015; Iverson & Pogoda, 2015; Latta et al., 2016) among sample of female veterans. Prevalence rates for lifetime IPV victimisation (any type) ranged from 25.4% to 85.9% (Dichter et al., 2011; Dichter et al., 2015; Iverson & Pogoda, 2015; Latta et al., 2016; O'Campo et al., 2006) (see also Table 3). A high quality study found that 7.5% of female tri-service Canadian personnel had experienced any physical and/or sexual IPV over the course of their current relationship (Zamorski & Wiens-Kinkaid, 2013). Finally, Dichter et al. (2015) found that 58.9% of their sample had experienced any psychological, physical and/or sexual IPV during military service.

Male victims.

Two high quality studies reported data on male IPV victims. Among active duty Canadian Armed Forces (CAF) personnel the prevalence of any physical and/or sexual IPV

experienced over the course of the current relationship was found to be 16.4% (compared to 7.4% among their female counterparts as reported above) (Zamorski & Wiens-Kinkaid, 2013). Among male veterans sampled from the U.S. general population, 9.5% reported any lifetime IPV victimisation (defined as actual or threatened physical violence or unwanted sex) (Cerulli et al., 2014).

Physical IPV

Nineteen studies explored self-reported physical IPV victimisation, with four of these studies rated as high quality (Belik et al., 2009; Foran et al., 2011; Heyman & Neidig, 1999; Skomorovsky et al., 2015). Four studies reported on male victims and seventeen studies on females. One high quality study collected data on males and females, but unfortunately did not disaggregate findings by gender (Skomorovsky et al., 2015). This study found that 13.2% of their sample of active duty Canadian Armed Forces (CAF) members had experienced physical IPV over the course of the current relationship (Skomorovsky et al., 2015).

Female victims.

Past year prevalence rates for any physical IPV victimisation among females ranged from 8% to 39% (Foran et al., 2011; Forgey & Badger, 2006; Heyman & Neidig, 1999; Iverson & Pogoda, 2015; Murdoch & Nichol, 1995; Rosen et al., 2002a). Past year prevalence rates for moderate-severe physical IPV ranged from 4.4% to 12.9% (Forgey & Badger, 2006; Heyman & Neidig, 1999; Murdoch & Nichol, 1995; Rosen et al., 2002a). A high quality study of active duty personnel reported past-year prevalence of clinically significant physical abuse (defined as acts that result in significant impact or high potential for impact) to be 3.45% (Foran et al., 2011). Two studies of pregnant active duty females found past-year physical IPV prevalence rates of around 3% (Lutgendorf et al., 2012; Lutgendorf et al., 2009).

Lifetime physical IPV prevalence rates ranged widely from 1% to 74% (Belik et al., 2009; Campbell et al., 2008; Chavez et al., 2012; Coyle et al., 1996; Dichter et al., 2015; Dobie et al., 2004; Iverson & Pogoda, 2015; Latta et al., 2016; Murdoch & Nichol, 1995). Three studies of physical IPV experienced by female veterans during military service found victimisation rates ranging from 20.6% to 31.7% (Dichter et al., 2015; Luterek et al., 2011; Sadler et al., 2004).

Male victims.

All four studies of physical IPV victimisation among males involved active duty participants, with two being classed as high quality (Belik et al., 2009; Foran et al., 2011). Past-year prevalence rates for any physical IPV ranged from 19.61% to 38% (Foran et al., 2011; Rosen et al., 2002a; Rosen et al., 2002b). Prevalence rates for moderate-severe past-year IPV ranged from 10% to 16% (Rosen et al., 2002a; Rosen et al., 2002b). Past-year prevalence of clinically significant physical abuse was found to be 3.54% among male active duty personnel (Foran et al., 2011). Finally, a high quality study found that just 1.1% of men reported being a victim of physical IPV in their lifetime (Belik et al., 2009). Of note, this study was unique among the studies in the review in that data was collected using face-to-face interviews on a military base. The lack of anonymity may have led participants to under-report.

Six studies which measured past-year physical IPV victimisation among military personnel met criteria for a random-effects meta-analysis with subgroup analysis by gender (n=35,201 males; 11,077 females: Figure 2). The pooled estimate of past year prevalence of IPV victimisation was 16.2% for males and females together (95% CI: 13.6-18.9) (this estimate had significant heterogeneity ($I^2=96.1\%$)), 21% (95% CI: 17.4-24.6; $I^2=73.6\%$) for males and 13.6% (95% CI: 9.5-17.7; $I^2=95.3\%$) for females. The overall risk of bias rating for the

pooled prevalence rates was -0.70, indicating a low to moderate risk of bias (see the Method section for further explanation).

Insert figure 2 here

Sexual IPV

Ten studies explored the prevalence of self-reported sexual IPV among military populations.

None of the studies were rated as high quality, and none reported on male victims.

Definitions of sexual IPV varied among studies, ranging from ‘unwanted sexual attention’ to ‘rape’, but most commonly defined as ‘sexual coercion’.

Estimates of past-year prevalence rates of sexual IPV varied from 3% to 35.9% (Caralis & Musialowski, 1997; Forgey & Badger, 2006; Iverson & Pogoda, 2015; Murdoch & Nichol, 1995). Two studies of past-year sexual IPV among pregnant active duty females reported lower prevalence rates of 0.5% (Lutgendorf et al., 2012) and 1.5% (Lutgendorf et al., 2009). Studies of lifetime sexual IPV reported prevalence rates ranging from 6.5% to 34.7% (Coyle et al., 1996; Dichter et al., 2015; Iverson & Pogoda, 2015). Furthermore, Coyle et al. (1996) found that 7.7% of VA patients had been victims of rape by a spouse/partner in their lifetime.

Four studies explored the prevalence of sexual IPV victimisation during military service.

Prevalence rates ranged from 1.9% (marital sexual IPV) (Campbell & Raja, 2005), to 18.1% (sexual coercion) (Dichter et al., 2015). One study found that 3.8% of their sample had been victims of rape by an intimate partner during military service (Sadler et al., 2003).

Psychological/Emotional/Financial IPV

Seven studies explored self-reported psychological, emotional, or financial IPV victimisation among military populations, three of which were rated as high quality (Foran et al., 2011; Skomorovsky et al., 2015; Zamorski & Wiens-Kinkaid, 2013). Five studies reported data on

female victims, and two on males. One high quality study analysed emotional IPV among male and female CAF members, but prevalence rates were not reported separately. This study found that 26.2% of their sample had experienced emotional IPV over the course of the current relationship (Skomorovsky et al., 2015).

Female victims.

Past-year psychological IPV prevalence rates ranged from 9.1% to 86.3% (Foran et al., 2011; Forgey & Badger, 2006; Iverson & Pogoda, 2015). A high quality study of active duty personnel reported past-year prevalence of clinically significant emotional abuse (defined as at least one reported emotionally aggressive act that caused significant distress that interfered with the victim's functioning) to be 8.5% (Foran et al., 2011); (see also Table 3). Lifetime psychological IPV prevalence rates ranged widely from 16% to 81.9% (Dichter et al., 2015; Iverson & Pogoda, 2015; Latta et al., 2016). A high quality study found that 22% of active duty females had experienced any emotional and/or financial IPV over the course of their current relationship (Zamorski & Wiens-Kinkaid, 2013). Finally, Dichter et al. (2015) found that 54.4% of their sample had experienced psychological IPV during military service.

Male victims.

Two high quality studies explored psychological IPV among active duty males; 6% of males had suffered clinically significant emotional abuse in the past year (Foran et al., 2011) and 25.6% had experienced any emotional and/or financial IPV over the course of the current relationship (Zamorski & Wiens-Kinkaid, 2013).

Active Duty versus Veteran Status

Eleven studies reported the prevalence of self-reported IPV victimisation among active duty personnel, and seventeen studies among veterans. Only one study of male veterans was included in the review. Estimates of prevalence of past-year physical, sexual and

psychological IPV varied more widely among female active duty personnel compared to female veterans, with some much higher estimates. Physical IPV prevalence among active duty females ranged from 2.8% to 39%, and among veterans from 8% to 13.8%. Sexual IPV prevalence ranged from 0.5% to 35.9% among active duty females, and 3% to 9.7% among veterans. Prevalence rates of psychological/emotional IPV ranged from 8.5% to 86.3% among active duty females, and among veterans there was only one study of psychological IPV which reported a prevalence rate of 9.1%.

Military-Related Factors

Eleven of the twenty-eight studies explored how self-reported IPV victimisation varied by military characteristics of the participants (Table 4).

Rank.

Three out of the six studies which examined IPV and rank reported increased IPV prevalence among lower compared to higher military ranks (Foran et al., 2011; Lutgendorf et al., 2009; Rosen et al., 2002a). Of the studies which used comparative statistics, two found a statistically significant association between IPV and victimisation and rank (Foran et al., 2011; Rosen et al., 2002a) and two did not (O'Campo et al., 2006; Zamorski & Wiens-Kinkaid, 2013).

Deployment.

One study (n=249) found that being deployed was significantly associated with increased psychological IPV victimisation (but not physical or sexual IPV) during military service after controlling for demographic confounders (Dichter et al., 2015). A high quality study of 1745 Canadian Armed Forces (CAF) personnel found decreased IPV victimisation over the course of the current relationship (both physical and/or sexual and emotional and/or financial) among service members with recent deployment (i.e. had been deployed within the previous

two years) compared to those with remote deployment (Zamorski & Wiens-Kinkaid, 2013). Analyses were not stratified by gender. The same pattern was found when those with recent deployment were compared with personnel who had never been deployed. However, this did not reach statistical significance for emotional and/or financial IPV.

Branch of service and engagement status.

Lutgendorf et al. (2009) studied 396 active duty females and found the highest IPV prevalence rate among those serving in the Army (40%) compared to serving in other branches (16.9%), though appropriate comparative statistics were not reported. However, four further studies found no significant difference in prevalence of IPV victimisation among military personnel from different branches of service (Iverson et al., 2015; Iverson & Pogoda, 2015; Mercado et al., 2015; Murdoch & Nichol, 1995).

One study of 176 female VA patients measured IPV among regulars and reserves and found no significant difference in prevalence rates (Iverson & Pogoda, 2015).

Era of Service and conflict served

Three studies explored past-year physical IPV among females who served in the pre-2001 era (Heyman & Neidig, 1999; Murdoch & Nichol, 1995; Rosen et al., 2002a), and three studies among those who served in the post-2001 era (Foran et al., 2011; Lutgendorf et al., 2012; Lutgendorf et al., 2009). Past-year physical IPV prevalence rates ranged from 13.1% to 39% among females who served in the pre-2001 era, and from 8% to 29.4% for the post-2001 era. There were insufficient studies to examine physical IPV by era of service among males.

One study found no significant difference in prevalence of lifetime IPV victimisation among female veterans who served in five different conflict periods: Operation Iraqi Freedom/Operation Enduring Freedom; Persian Gulf; Post Vietnam; Vietnam and Korea/World War II (Latta et al., 2016).

Discussion

Summary of Main Findings

This review appraised twenty-eight papers that investigated the prevalence of self-reported IPV victimisation among military populations. The majority of studies examined IPV victimisation among females rather than males. Prevalence rates varied widely depending on sample, method of measurement of IPV and definitions of IPV, making it difficult to summarize and statistically pool the findings. What was clear was that the prevalence of self-reported IPV victimisation among females was generally higher for psychological IPV, followed by physical and sexual IPV with some evidence supportive of a similar pattern among males. Studies tended to show a similar or higher prevalence of emotional and physical IPV among males compared to females, though findings from a small number of studies suggest that this may not be the case when IPV associated with impact or injury is measured.

Prevalence rates of sexual IPV varied widely between studies in the review depending on definition. However, in spite of wide variations, all extant studies of sexual IPV during military service found it to be highly prevalent. All studies were of females victims with no studies of sexual IPV victimisation among male military personnel.

Evidence for the impact of military factors such as deployment, rank and service on IPV victimisation was conflicting. There was some evidence indicating increased IPV victimisation among personnel in lower ranks, those serving in the Army compared to other branches of service, and those who served in the pre-2001 era compared to the post-2001 era. However, this was not conclusive. Overall, the findings indicated increased IPV victimisation among active duty personnel compared to veterans.

Type of IPV.

Psychological/emotional abuse was found to be the most prevalent type of IPV. It is possible that this is due to the under-reporting of physical/sexual IPV compared to psychological IPV. Previous research among the general population has found that perpetrators of IPV are more likely to disclose psychological than physical abuse (Williamson et al., 2014). It is possible that a similar pattern is present among victims of IPV, though for perhaps different reasons. Barriers to the disclosure of IPV among mental health service users include fear of the consequences (including fear of further violence and of Social Services involvement/child protection issues) and feelings of shame (Rose et al., 2010). These barriers to disclosure may be greater with physical/sexual than psychological violence.

The findings support growing public concerns about the prevalence of sexual assault against female military personnel during service (Defense Department Advisory Committee on Women in the Services, 2013; Mankowski & Everett, 2016). However, the absence of studies on male sexual IPV victimisation in this review reflect the common misconception that sexual assault is a “women’s issue” (Castro et al., 2015). The Armed Forces have implemented a number of measures to address the issue of sexual abuse. For example, in the US the Department of Defense presents the annual Sexual Assault Prevention Innovation Award to commend personnel or units who have taken action to prevent sexual assault (DoD Sexual Assault Prevention and Response Office, 2016). Nevertheless, the US military’s sexual assault prevention and response programme lacks sufficient information about male victimisation and consideration of the distinct barriers to reporting for males (US Government Accountability Office (GAO), 2015).

Gender and IPV victimisation in the military.

Studies in this review report similar or higher prevalence rates of past-year emotional and physical IPV among males compared to females. The results of the meta-analysis of past-year

physical IPV by gender must be interpreted with caution, as only two studies of males could be included. However, it is notable that studies of past-year physical IPV that reported data on both genders all found similar prevalence rates among males and females (Foran et al., 2011; Forgey & Badger, 2006; Rosen et al., 2002a). A review of nationally representative surveys of IPV found that surveys conducted in countries with markedly decreased gender equality (for instance, Uganda) tended to find higher rates of female victimisation, whereas equal rates of self-reported IPV among genders were found in the U.S. (Esquivel-Santoveña & Dixon, 2012). The vast majority of studies included in our review were conducted in the U.S.

Evidence has shown that males and females may be affected differently by social desirability bias (Sutton & Farrall, 2004), such that males may be less likely to report victimisation than females. Such gender stereotypes are likely to be more pronounced within the ‘macho’ military culture, where masculinity is highly valued and help-seeking is perceived as a sign of weakness (Wolf et al., 2017). Indeed research has suggested that gender-bias in the military impedes the reporting of abuse by male victims (Gray, 2015). In spite of the potential impact of social desirability bias on reporting by military males, this review found at least similar rates of IPV victimisation in males and females.

It is of note that twenty-four studies reported data on female victims, compared to only seven on males. In the UK, Joint Service Publication (JSP) policies on the management of IPV have been developed based on the Ministry of Defence’s commitment to support the cross government Violence Against Women and Girls agenda (Ministry of Defence, 2015a).

Notably, the policy which provides practice direction in managing cases of IPV refers to the IPV victim as being female (Ministry of Defence, 2015c). This is suggestive of a lack of acknowledgement of victimisation among male serving personnel, which is further supported by the lack of studies into male victimisation in this review. The military culture, which

favours male strength and is forbidding of male weakness, may have influenced the direction of research to focus on female IPV victims. However, it has been noted that to frame the problem of IPV as ‘violence against women’ overlooks males who may be victims of violence in gender-saturated contexts, such as IPV (Archer, 2000). Walby et al. (2017) argue that if the focus in official crime statistics is biased towards women then we cannot explore the gendered nature of violence, which requires comparisons between males and females. Considering that the review findings suggest that physical IPV victimisation is just as prevalent if not more prevalent among male compared to female military personnel, it seems that increased awareness of male IPV victimisation in the military is needed, both from a research and service development perspective.

Gender differences in IPV victimisation, or lack thereof, in this review may be masked by a lack of consideration of the impact of violence on the victim. Walby et al. (2017) note the gendered lack of alignment between actions and impact/consequences and argue that the CTS (Straus & Gelles, 1999) is not an appropriate tool to measure IPV, because actions alone cannot be relied upon to define a violent event. General population research has found that females tend to report greater physical harm from IPV than males (Breiding, 2014; Stöckl et al., 2013; Walby et al., 2004). Only two studies in this review considered the impact of IPV, and both found it to be equal or greater among females compared to males (Foran et al., 2011; Forgey & Badger, 2006). However, in one study enlisted females were asked to report on both their own and their spouse’s IPV perpetration and so there is likely to be significant reporting bias (Forgey & Badger, 2006).

Pattern of IPV among military populations vs. general population.

In the U.S., the National Intimate Partner and Sexual Violence Survey (2011) found emotional and/or financial abuse to be the most common type of IPV experienced by both

males and females (Breiding, 2014), a finding that has been mirrored here among military female victims. The U.S. general population survey found a similar prevalence of past-year physical IPV victimisation among males (4.8%) and females (4%). Prevalence of severe past-year physical IPV was also similar among males (2.1%) and females (2.3%), though the impact was reported to be greater among females (13.4% of females reported being physically injured compared to 3.5% of males) (CDCP, 2014). Past-year prevalence of any physical IPV victimisation in studies of military personnel included in this review ranged from 19.61% to 38% for males, and from 8% to 39% for females. Severe physical IPV prevalence rates ranged from 3.54% to 16% for males, and from 3.45% to 12.9% for females. So, while the review findings show a similar lack of gender difference in physical IPV victimisation, the prevalence rates in the military studies are universally higher than in the U.S. general population irrespective of sample population and methodology. However, such a crude comparison does not take account of possible sociodemographic differences in these populations that may contribute to differences in prevalence of IPV. Findings from robust research comparing the prevalence of IPV victimisation among military personnel and the general population, taking account of possible confounders, have yet to be published.

Active-duty personnel compared to veterans.

Past-year physical, sexual and psychological IPV victimisation rates were generally higher in studies of female active duty personnel compared to female veterans. In the U.S., the Family Advocacy Program raises awareness and educates personnel on the most effective responses to IPV (Department of Defense, 2015). It is possible that increased awareness has led to increased reporting of IPV among active duty personnel in comparison to veterans. It is also possible that the military environment increases the risk of IPV, for example, due to an accepted culture of aggression (Adelman, 2003) and increased family stress (Johnson et al., 2007).

Military characteristics.

This review draws attention to the paucity of studies exploring how IPV victimisation rates may vary by military characteristics. Studies into the impact of deployment on risk of IPV victimisation were limited methodologically, e.g. use of cross-sectional data and no consideration of reduced time at risk of IPV if on deployment. Deployment is an important aspect of military service and has been shown to increase risk of mental health problems, alcohol misuse and aggressive behaviour (Fear et al., 2010; MacManus et al., 2013). Hence further research into the possible impact of deployment on risk of IPV victimisation is required.

The prevalence of past-year physical IPV victimisation was found overall to be reduced but not markedly different among females who served in the pre-2001 era compared to the post-2001 era. This could be interpreted as a positive finding that reporting of IPV has not increased in spite of increased military operations for all Allied Forces since 2001. It may also suggest a lack of culture shift and a need for enhanced awareness raising to encourage more reporting of abuse.

Strengths and Limitations

To our knowledge, this is the first systematic review of the prevalence of self-reported IPV victimisation among military populations. A strength of this review is that it appraised studies of all types of IPV (including varying definitions of “any” IPV). However, heterogeneity in definition and measurement of IPV limited comparison between studies and hence the conclusions that can be drawn from the review. Methods of data collection in the included studies ranged from anonymous surveys to face-to-face interviews on a military base, which is likely to influence rates of reporting.

Problems with IPV definitions and measurement was not only a significant limitation of studies in this review, but is a criticism of the field of IPV research as a whole (Follingstad, 2007; Follingstad & Bush, 2014; Maiuro, 2001). For example, there is no consensus on whether threats of physical harm should be measured by physical abuse scales, or psychological abuse tools (Hegarty et al., 2005). Follingstad and Bush (2014) suggest that the current approach to measuring IPV hinders the improvement of the evidence base and stress the importance of developing a “gold standard” measurement.

It is important to acknowledge that self-report data is vulnerable to reporter bias. The reporting of IPV victimisation can be influenced by social desirability and also the interpretation of what constitutes “abusive behaviour” may vary widely among participants. However, although self-report measures have limitations, official sources of data are likely to underestimate the prevalence of IPV victimisation, which may be skewed towards more severe IPV. Official crime records rely on police recorded crimes which have been shown to be limited in their capture of incidents of IPV through: the use of face to face interviews, a methodology which has been shown to lead to under-reporting of IPV (Office for National Statistics, 2018) (rates of physical IPV victimisation identified by the self-completion module in the Crime Survey for England and Wales are five times higher than those disclosed through the face-to-face interviews (O’Leary & Boulwood, 2018)); bias toward incidents of violence that victims are willing to label as criminal and report, i.e. more severe physical violence (O’Leary & Boulwood, 2018); inconsistency in methods of collection of data regarding IPV incidents (Max et al., 2004).

It should be noted that risk of bias calculations highlighted the low quality of some of the evidence included in the meta-analysis, as some studies had small, non-representative samples. However, the overall risk of bias rating was low-moderate, and the majority of

included studies were classed as medium to high quality; thus we felt it was valid to combine these prevalence estimates.

An important limitation of this review is the lack of research on IPV victimisation among male military personnel. It is notable that all studies conducted in clinical settings focused on female VA patients, and only one study included male veteran participants. This suggests a particular lack of acknowledgement or awareness among health researchers of male victims of domestic abuse.

Implications

Future research must endeavour to reduce the variation in definition and measurement of IPV in order that more meaningful comparisons between studies can be made. This review highlighted that IPV victimisation among male service members is under-researched. It has been noted that if the focus in official crime statistics is biased towards women then we cannot explore the gendered nature of violence (Walby et al., 2017). Research that examines the impact of IPV among male and female personnel would be valuable, in order that gender differences can be uncovered. Furthermore, research is needed into barriers to help-seeking which may be greater in military populations, for example, as a result of the 'macho' culture (Iversen et al., 2010; Sharp et al., 2015). The burden of IPV identification in the military falls to healthcare/welfare workers. Considering the heightened stigma associated with victimisation among male military personnel it is imperative that healthcare/welfare staff are vigilant to and knowledgeable about male victimisation, in order to respond sensitively and support male victims in reporting their experiences and seeking help.

Military culture may influence the type and severity of IPV and the associated risk factors, which may differ from the general population. This review emphasises the need for more understanding of military-specific factors (such as deployment or military rank) that may

influence IPV victimisation, in order that specific higher risk groups can be identified, and interventions tailored to the needs of service members.

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