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REVIEW

The epidemiology of domestic violence in Saudi Arabia: a systematic review

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Abstract

Objectives The aim of this study is to review the prevalence, risk factors, and outcomes of domestic violence (DV) in Saudi Arabia.

Methods Systematic review utilizing PRISMA guidelines conducted on articles focusing on research related to the epidemiology of domestic violence in Saudi Arabia between 2009 and 2017 were identified through electronic databases (PubMed and Embase) and supplemented by cross-referencing and local journal searches.

Results Eleven studies were conducted in six cities (Riyadh, Jeddah, Madina, Taif, Arar, and Al-Ahsa). Several screening questionnaires were utilized; four studies used the WHO multi-country study questionnaire and found that the lifetime prevalence of DV ranged between 39.3 and 44.5%. The most frequently reported risk factors for DV were the level of education of both the victim and the spouse and alcohol or drug addiction of the spouse.

Conclusions One in every three women in Saudi Arabia is a victim of domestic violence. Strategies to reduce risk factors, prevent DV, care for victims, and mitigate the effects of DV must be adopted by health care agencies in Saudi Arabia.

Keywords Saudi Arabia · Domestic violence · Intimate partner violence · Abuse · Violence

Introduction

Women's lives are affected by domestic violence in numerous ways that alter their physical, emotional, and mental status. The effects of domestic violence spill into our community with catastrophic impacts. The World Health Organization (WHO) led an international alliance against domestic violence in 1997, when they started the WHO multi-country study on domestic violence. This study aimed to investigate the prevalence, health outcomes,

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and risk factors of violence against women (Garcia-Moreno et al. 2005).

Violence is defined as the intentional use of power or physical force, threatened or actual, against oneself, another person, a group or a community that either results in or has a high likelihood of resulting in psychological harm, death, injury, maldevelopment, or deprivation (Garcia-Moreno et al. 2005). The United Nations defines violence against women as "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or mental harm/suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or in private life (UN General Assembly 1993)." Domestic violence takes the form of intimate partner violence (IPV). The WHO defines IPV as any behavior within an intimate relationship that causes physical, psychological, or sexual harm to those in the relationship (Krug et al. 2002).

It is a challenging task to identify domestic violence as there are several barriers that deter victims from seeking help or leaving an abusive relationship (Fugate et al. 2005). This is due to several reasons, including social barriers of shame, criticism, privacy, fear, lack of confidentiality, and mistrust in the system (Vranda et al. 2018). Hence, health care providers should be aware of tell-tale signs and symptoms and should perform or inquire about domestic violence (DV), as recommended by several medical and governmental bodies (Moyer and U. S. Preventive Services Task Force 2013; WHO 2013b; World Medical Association. WMA statement on family violence 2017). Physical injuries related to domestic violence have a wide array of presentations, including contusions, black eyes, fractures, serious injuries, such as loss of limb or function (hearing or vision) and burns that may lead to disfigurement (Coker et al. 2002; Dillon et al. 2013). Women who experience domestic violence report chronic unexplained pain, a symptom not directly related to abuse (Sugg 2015).

Physical symptoms include chronic fatigue, vaginal discharge, bleeding, and painful intercourse. Some women are forced to have intercourse with their infected partners and thus suffer from sexually transmitted diseases. Finally, the mental health of women can be affected by domestic violence, leading to depression, posttraumatic stress disorder, and even suicide (Sugg 2015).

The WHO multi-country study on domestic violence collected evidence from over 24,000 women on the prevalence, risk factors, and outcomes of domestic violence. Data were collected from the following countries: Brazil, Bangladesh, Japan, Ethiopia, Peru, Namibia, Samoa, Serbia and Montenegro, Thailand, and the United Republic of Tanzania (Garcia-Moreno et al. 2005).

The data showed that violence was widely evident in the participating countries. There were also wide intercountry and intracountry variations. The proportion of women who had experienced lifetime violence ranged from 15 to 71%; however, in the majority of the countries, the prevalence ranged from 29 to 62% (Garcia-Moreno et al. 2005).

Risk factors for domestic violence were classified by applying the ecological approach. Age was an important factor in DV. It was observed that the younger the victim was, the more likely she was to be subjected to intimate partner violence. In Bangladesh, 48% of 15- to 19-year-old women versus 8% of 45- to 49-year-old women reported experiencing physical or sexual violence, or both, by their partners. This implies that younger men tend to be more violent than older men. It was also found that higher levels of education (beyond secondary school), financial autonomy, and social support played an important role in decreasing the intensity of violence, and as a consequence, decreasing vulnerability to violence, as did partner factors, such as level of communication between the abuser and the victim, use of alcohol or drugs or both, employment status, witnessing violence as a child, and physical aggressiveness of the partner toward other men. Finally, social factors that were found to contribute to violence against women included the degree of economic inequality between genders, level of female autonomy, attitude toward gender roles, and the level of support from family, friends, and neighbors (Garcia-Moreno et al. 2005).

Worldwide, domestic violence has several serious consequences. Victims of domestic violence suffer not only physical injuries but also mental and social harms (Karakurt et al. 2014). Wisner et al. (1999) analyzed the computerized cost data from Minnesota, USA, of 126 victims of DV and compared the results to a sample of 1007 general female enrollees. They found that the health costs of victims of DV were 92% more than those of females from the general population. This was due to increased utilization of medical services in the form of hospitalizations, visits to outpatient departments (OPDs), and mental health services (Wisner et al. 1999).

Chronic pain, such as abdominal pain, neck pain, back pain, and headaches, are common presentations (Wuest et al. 2008). Domestic violence is associated with several serious mental illnesses, namely depression, anxiety, and posttraumatic stress disorder (PTSD) (Ferrari et al. 2016; Mendonca and Ludermir 2017). Mental illnesses, such as suicide illness, can lead to serious consequences. Wuest et al. (2008) also found that 31% of survivors of DV had attempted suicide in their lifetime.

Unfortunately, DV has a ripple effect; it does not stop at the individual level, and there is a strong association between DV and its consequences for children. Children exposed to DV are at increased risk of depression, anxiety disorders, posttraumatic stress disorder (PTSD), and school-related problems (Osofsky 2003; Levendosky et al.

2013). The rate of domestic violence and child abuse in the same household ranges from 45 to 70%, indicating that the presence of IPV is a risk factor for child abuse (Holt et al. 2008). DV has significant economic consequences, leading to an increased burden on the health system in the form of increased health care costs as well as impacts on affected individuals' education and work productivity (Duvvury et al. 2013).

The WHO continues to pursue this fundamental issue. In May 2016, the World Health Assembly endorsed a global plan against DV. To execute this plan, the WHO is collaborating with international agencies and organizations such as the Violence Against Women Working Group of the International Federation of Obstetrician-Gynecologists (FIGO) and the UN Joint Program on Essential Services Package for Women Subject to Violence.

The wide variations in the rates of violence among women in different countries suggest that cultural aspects play an important role in determining the rate of violence and general attitudes toward its acceptability. Although domestic violence has been studied extensively in different regions of Saudi Arabia, there has not yet been a systematic review to summarize all aspects of the DV. Furthermore, there are several tools to define DV but a lack of consensus or guidelines on addressing DV in Saudi Arabia, which calls for analysis of the available data to comprehensively understand the epidemiology and rate of domestic violence in Saudi Arabia. The objective of this paper is to review the prevalence, risk factors, and outcomes of domestic violence among females in Saudi Arabia.

Methods

A systematic review using PRISMA guidelines was conducted (Moher et al. 2009). Studies were identified by searching electronic databases, cross-referencing and searching local journals. The search was conducted in April 2018, and the search dates included all articles between 2009 and 2017. This electronic search was conducted using PubMed (1966—present) and Embase (1980—present). Additionally, we searched cross-references and hand-searched local journals, including The Saudi Medical Journal 1979, Annals of Saudi Medicine 1985, and The Saudi Journal of Medicine & Medical Sciences 2013. We used the following search terms for our search: (i) (domestic violence or intimate partner violence or abuse) AND (epidemiology OR risk OR prevalence OR incidence OR burden OR prognosis) AND (Saudi OR Riyadh OR Jeddah OR Dammam Or Mecca OR Makkah), (ii) "Intimate Partner Violence"[Mesh heading] AND (epidemiology OR risk OR prevalence OR incidence OR burden OR prognosis) AND (Saudi OR Riyadh OR Jeddah OR Dammam Or Mecca OR Makkah), (iii) "Domestic Violence" [Mesh heading] AND (epidemiology OR risk OR prevalence OR incidence OR burden OR prognosis) AND (Saudi OR Riyadh OR Jeddah OR Dammam Or Mecca OR Makkah).

Inclusion criteria were centered on English language articles published in peer-reviewed journals from 2009 to 2017. Studies assessing the epidemiology of domestic violence against women in Saudi Arabia were included. Exclusion criteria were any case reports or case series.

The search through the PubMed and Embase databases generated 423 records. Duplicates were removed, and a total of 355 records were identified. Screening of the title and abstracts excluded 318 articles that were irrelevant to the topic (not studying domestic violence). Finally, 37 full-text articles were assessed for eligibility and were screened against the inclusion criteria. A total of 28 articles were further excluded because either the population was not women in Saudi Arabia or because the authors were studying forms of abuse other than domestic violence. A secondary search was performed by cross-referencing, which identified two articles. Subsequently, the total number of articles included in the review was 11. The eligibility assessment was performed independently by two reviewers. Disagreements between the two reviewers were resolved by consensus (See Fig. 1).

The data extracted from each study included the population of the study (location and inclusion and exclusion criteria); the case definition used to identify domestic violence, including the tool used and whether it was a self-administered questionnaire or an interview; factors associated with domestic violence, including victim and abuser characteristics; outcome of domestic violence if assessed in the study, including physical and psychological outcomes.

Results

A data extraction table was developed, and the elements included were year and location of study, sample size, case definition used to diagnose DV, lifetime and one-year prevalence, risk factors, and outcomes (see Table 1).

We used the appraisal tool for cross-sectional studies (Axis tool) to assess the quality of the included studies (Downes et al. 2016). This tool includes 20 questions that measure the quality of the study, including its aims, appropriateness of design, justification of sample size, information about the sample population and nonresponders, appropriateness of the studied variables according to the objective, validation of measures, methods, different aspects of results, discussion, and conclusion. We assigned a score ranging from 0 to 20 for each study based on the questions; higher scores reflected a lower risk of bias. The quality assessment of the articles in this review showed that

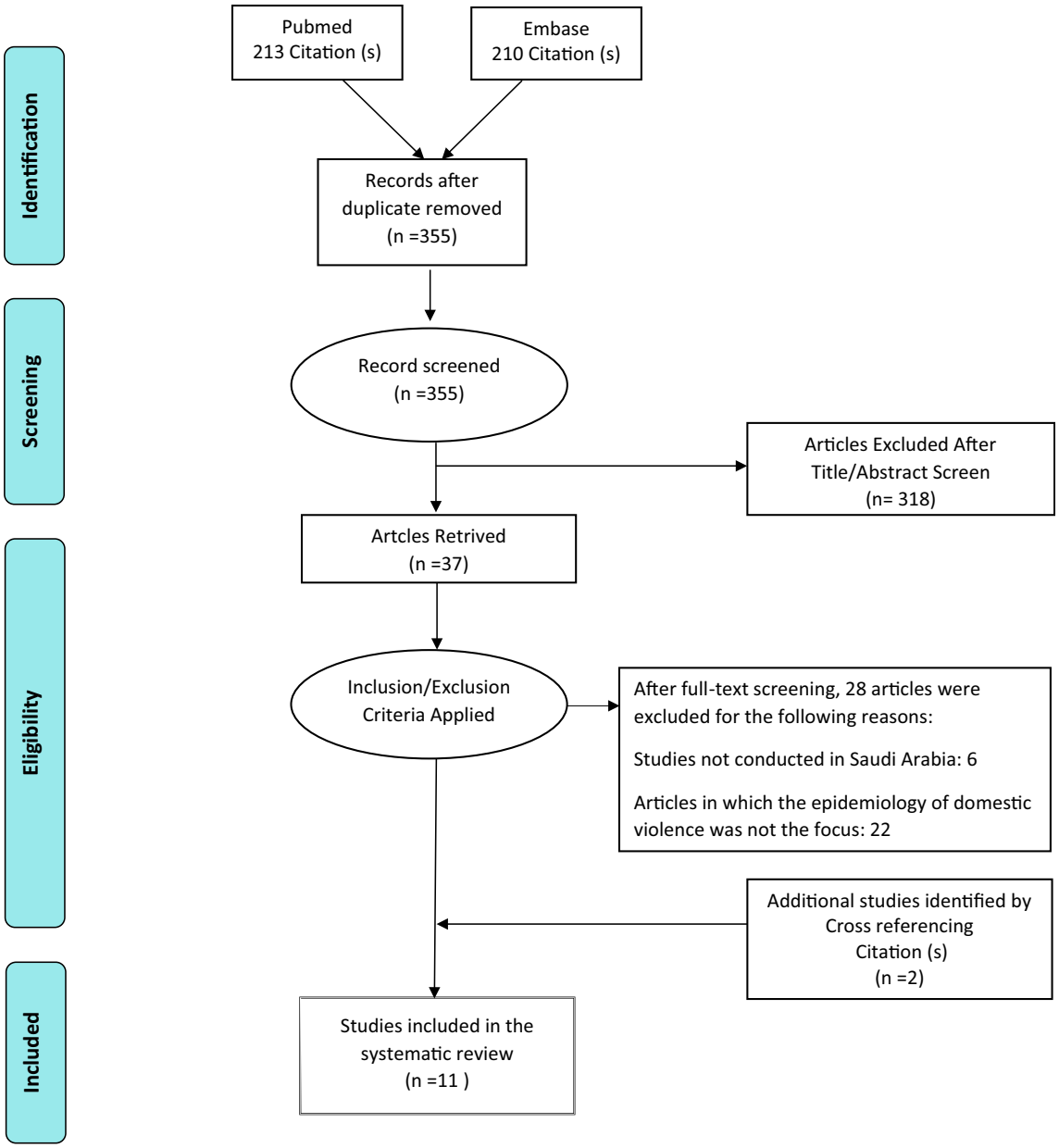

Fig. 1 Study flow diagram for the literature search and selection process

most of the articles met the AXIS tool criteria with high scores. However, most of the studies took samples from health care centers and did not include the healthy population, which raises questions regarding the generalization of results. Similarly, most of the studies did not mention nonresponders (Table 2).

Nine studies were conducted in six cities (Riyadh, Jeddah, Madina, Taif, Arar, and Al-Ahsa), one study was conducted across 13 governorates, and one study was conducted through an online survey. The studies included 9461 women, with sample sizes ranging from 213 to 2072. The studies were published between 2009 and 2017. All studies were cross-sectional. Data collection was performed through self-administered questionnaires in four studies and through personal interviews in seven studies. The DV assessment was mainly performed by the WHO multi-country study questionnaire in four studies, the NorVold Domestic Abuse Questionnaire in two studies, the HITS scale in one study, the Conflict Tactics Scale in one study, and a questionnaire predesigned by the authors in three studies (see Table 1).

The lifetime prevalence of domestic violence was assessed in eight studies. There was considerable variation in the reported lifetime prevalence, which ranged between 32 and 80.7%. Three studies reported a lifetime prevalence of domestic violence. Alquaiz et al. (2017), Afifi et al.

Table 1 Summary of reviewed articles

Author	Publication year and city	Sample size/age/type of sampling technique used	Assessment tool used/types of violence studied	Lifetime prevalence/prevalence of type of violence	One-year prevalence	Risk factors for DV
Eldoseri et al.	2017 Jeddah	200 women/age; ranged (18 to more than 51 years)/convenience	WHO multi-country study (WHO, 2005)/physical violence	44.5%	16%	Spouse characteristics: 1-Education$n \leq 12$ versus > 12 years (p value .015) 2-Employment: not working versus working (p value $< .05$) Victim characteristics: 1-Age: < 30 years (p value .012)
Alquaiz et al.	2017 Riyadh	1883 women/age mean (44.7 ± 10.7) range (30 to 75)/random sampling	WHO multi-country study (WHO, 2005)/controlling behavior, emotional, sexual, physical violence	43% 1-Controlling behavior 36.8% 2-Emotional 22% 3-Sexual 12.7% 4-Physical 9%[a]		Factors associated with DV: 1-Younger age 30–40 versus > 40, aOR 1.9 95% CI = [1.3, 3.0] 2-Lack of emotional support aOR 1.7 95% CI = [1.2, 2.5] 3-Husband's poor health aOR 1.9 95% CI = [1.5, 2.6]
Abo-Elfetoh et al.	2015 Arar	208 women	Predesigned questionnaire defined by authors/psychological violence	80.7% lifetime prevalence of physical[a] DV, 100% lifetime prevalence of psychological violence		Spouse education: University 13.5%, secondary education 55.8% (p value $< .05$) Victim education: University 5.8%, uneducated (p value $< .05$)
Barnawi	2015 Riyadh	720 women	Predesigned questionnaire defined by authors/emotional, social, economic, physical and sexual violence	1-Emotional 69% 2-Social 34% 3-Economic 26% 4-Physical 20% 5-Sexual 10%[b]	20%	Spouse characteristics: 1-University versus lower education .45 (p value .018) 2-working versus nonworking 4.12 (p value .002) Victim characteristics: 1-age OR .88 (p value $< .001$) 2-University versus lower education 2.61 (p value .006)
Fageeh	2014 Jeddah	2301 women/age mean (34.4 ± 10.9), range (15–70)/convenience	NorVold domestic abuse questionnaire/physical, psychological and sexual violence	34%		Financially dependent women had a 1.5-fold odds of being abused (p value .001)

Table 1 (continued)

Author	Publication year and city	Sample size/age/type of sampling technique used	Assessment tool used/types of violence studied	Lifetime prevalence/prevalence of type of violence	One-year prevalence	Risk factors for DV
Alzahrani et al.	2016 Jeddah	497 women/age range (18–60) mean (33.9 ± 8.4)/two-stage probability sampling	HITS questionnaire/physical and psychological violence		11.9%	Predictors of IPV: 1-Widowed parents *p* value .001 2-Exposure to violence in childhood *p* value .00 3-Alcohol or drug addiction *p* value .001
Afifi et al.	2011 Al-Ahsa	2000 women/age range (15–60)/2-stage proportionate cluster random sampling	WHO multi-country study (WHO, 2005)/mental, physical and sexual violence	39.3%		
Tashkandi et al.	2009 Medina	689 women	CTS-R/physical and emotional violence	57.8% 1-Physical 26.9% 2-Emotional 30.9%	58.5%	
Halawi et al.	2017 13 governorates	758 women/age range (18–64)/stratified random sampling	Predesigned questionnaire defined by authors/physical abuse	32%		Reasons for violence per victim: 1-drug addiction 94.8% 2-alcohol addiction 91.3% 3-social stressors 88.1% 4-poor income 87% 5-unfaithfulness 87%
Aldosary	2016	421 women/age mean (29.88 ± 8.8) range (14–55)/convenience sample	NorVold domestic abuse questionnaire/ emotional, physical and sexual violence			
Eldoseri et al.	2014 Jeddah	200 women/age range (18 to more than 51)/convenience	WHO multi-country study (WHO, 2005)/physical violence	44.5% 1–8.5% reported DV-related injuries. 2–6.5% reported DV as the cause of those injuries to health care providers[c]	16%	

DV Domestic violence, *HITS* Hurt, insult, threaten, and scream, *IPV* Intimate partner violence, *CTS-R* Conflict tactics scale, revised, *aOR* Adjusted odds ratio, *CI* Confidence interval

[a]*Controlling behavior* Acquiring permission for seeking health care, restrictions in contacting family. Keeping away from friends, ignoring and treating differently, and being suspicious. *Emotional violence* Threats to hurt, insulting, scaring, and intimidating. *Physical violence* Being hit with a fist, kicked, dragged, burned, slapped, pushed, or shoved, threatened with a weapon, or having a weapon used. *Sexual violence* Made to do unacceptable sexual acts, sexual intercourse out of fear, and physically forced into sexual intercourse

[b]*Physical violence* Contact that result in physical injury. *Emotional violence* threatening, intimidating, undermining the victim's self-worth or self-esteem, or controlling the victim's freedom. *Sexual violence* using force to obtain unwanted, unsafe, or degrading sexual activity. *Economic violence* maintaining total control over the victim's economic resources to make the woman financially dependent. *Social violence* preventing the woman from having contact with relatives, friends, and service providers or restricting the person's activities

[c]*Injuries include* cuts, abrasions, bites, scratches, bruises, dislocation, sprains, burns, deep cuts, wounds, broken eardrum, eye injuries, fractures, broken teeth and internal injuries

Table 2 Quality assessment of the articles (AXIS)

Authors	Questions																				AXIS score/20
	1	2	3	4	5	6	7	8	9	10	11	12	13[a]	14	15	16	17	18	19[a]	20	Total
Eldoseri et al.[17]	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	Y	18
Alquaiz et al.[21]	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	19
Abo-Elfetoh et al.[19]	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	14
Barnawi[24]	Y	Y	Y	Y	N	N	DK	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	Y	16
Fageeh[26]	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	17
Alzahrani et al.[23]	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	DK	DK	Y	Y	Y	Y	DK	Y	14
Afifi et al.[20]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	DK	Y	Y	Y	Y	Y	N	Y	19
Tashkandi et al.[22]	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	DK	Y	18
Halawi et al.[25]	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	16
Aldosary[28]	Y	N	N	Y	N	N	N	N	Y	Y	Y	Y	Y	DK	N	Y	Y	Y	N	Y	11
Eldoseri et al.[18]	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	DK	N	Y	Y	Y	Y	N	Y	17

Appraisal tool for cross-sectional studies

Y yes, *N* No, *DK* Do not know

[a]'NO' is taken as positive for these questions only

(2011), and Eldoseri and Sharps (2017) reported lifetime prevalence of DV of 43%, 39.3%, and 44.5%, respectively, using the WHO multi-country study questionnaire. Tashkandi and Rasheed (2009) reported a lifetime prevalence of DV in Madina of 57.8%, defining DV according to the Conflict Tactics Scale. The one-year prevalence was described in four studies: 11.9% in Taif, 18.5% in Jeddah, 20% Riyadh, and 58.5% in Madina (Tashkandi and Rasheed 2009; Barnawi 2015; Alzahrani et al. 2016; Eldoseri and Sharps 2017). Two studies assessed the prevalence of physical DV alone, which was found to be 44.5% and 32% (Abo-Elfetoh and El-Mawgod 2015; Ahmed et al. 2017; Eldoseri and Sharps 2017).

Regarding types of DV, five studies focused on the prevalence of different types of DV reported by the population. The most common type of reported DV was emotional, followed by physical and sexual (Tashkandi and Rasheed 2009; Afifi et al. 2011; Fageeh 2014; Barnawi 2015; Alzahrani et al. 2016; Alquaiz et al. 2017).

Risk factors for domestic violence were explored in seven studies. Factors addressed were either victim- or spouse-related variables. Due to the variability in definitions of DV, the different risk factors were assessed in each study, and the different analytical methods were used (odds ratios, adjusted odds ratios, bivariate analysis); it was not possible to perform a pooled analysis. The most common risk factors were the level of education of both the victim and the spouse, alcohol or drug addiction of the spouse, and the victims' financial dependence on the spouse. Eldoseri and Sharps (2017) reported that DV was significantly associated with a spousal history of childhood beating and witnessing DV. Women who reported spousal alcohol or drug addiction were 12.7 times more likely to report DV. Alquaiz et al. (2017) found several factors associated with greater odds of reporting DV. Multivariate logistic regression for those factors revealed that they included younger age (30 to 40 years, compared to 61–75 years) with an adjusted odds ratio (Ferlay et al. 2019) = 1.9, 95% CI [1.3, 3.0], lack of emotional support aOR = 1.7, 95% CI = [1.2, 2.5], and lack of tangible support aOR = 1.4, 95% CI = [1.1, 1.9] (Alquaiz et al. 2017).

Alzahrani et al. (2016) explored several factors with multiple logistic regression analysis. The predictors for reporting DV consisted of the husband's past exposure to violence aOR 4.45 95% 95% CI [1.95–10.15] $p < .001$ and addiction to alcohol or drugs aOR4.89 95% CI [1.57–15.19] p .006 (Alzahrani et al. 2016). Factors associated with reporting domestic violence in a cross-sectional survey in Jeddah were lower level of education, finance dependence on the spouse, and lower education of the spouse (Fageeh 2014). A relationship between DV and a low level of spousal education relation was also found in the study by Barnawi (2015). In the study addressing all thirteen governorates of Saudi Arabia, it was found that victim risk factors for reporting DV using multivariable logistic regression included being divorced aOR 5.7 95% CI [3.31–9.84] and having low education aOR 4.12 95% CI [1.53–6.29]. However, spouse risk factors included low education aOR 2.58 95% CI [1.35–4.94], unemployment aOR 5.62 95% CI [2.06–15.36] and low-income aOR 2.85 95% CI [1.57–5.16] (Ahmed et al. 2017). The relationship between reporting domestic physical violence and spousal education level was found to be statistically significant by

the group that studied DV in Arar city (Abo-Elfetoh and El-Mawgod 2015).

DV was associated with victim perception of poor health (Afifi et al. 2011; Al Dosary 2016; Alquaiz et al. 2017). Emotionally and physically abused women reported more doctor visits, depression, insomnia, and somatic symptoms, all of which were statistically significant (Al Dosary 2016).

In terms of seeking medical advice and disclosing the cause of injury to health care providers, Eldoseri et al. (2014) found that only 41% (i.e., 13 out of 31) DV victims with physical injury reported the cause of their injuries. Two studies explored the reasons for victims not seeking help in general and from physicians. Afifi et al. (2011) explored the reasons for not seeking advice or treatment, which were connected to the desire to protect children, fear of divorce, and financial dependence. Tashkandi and Rasheed (Tashkandi and Rasheed 2009) interviewed victims to determine their reasons for not seeking treatment; the reported reasons included viewing physicians as strangers and physicians having a noncaring attitude and poor communication skills.

Discussion

To the best of our knowledge, this is the first review to summarize the available evidence regarding domestic violence in Saudi Arabia. Data extraction and screening were conducted independently by two authors. There were 11 articles that fulfilled our eligibility criteria, all of which were cross-sectional studies; hence, the temporal relationship of the risk factors with domestic violence cannot be established, which is an inherent limitation of the cross-sectional study design. Six of the articles were published between 2015 and 2017, which reflects the increased focus on DV in Saudi Arabia in recent years. Data were insufficient to conduct meta-analysis or provide any pooled estimates. Overall, the 11 articles used variable tools and definitions to estimate DV. Eight studies reported the lifetime prevalence of domestic violence. Three studies utilized the WHO multi-country study questionnaire and its case definition, reporting a prevalence of DV between 39.3 and 44.5%. The remaining four studies used other validated questionnaires. However, it is important to note that these questionnaires (such as the modified CTS and NorVold Domestic Abuse Questionnaire) were developed and validated by Western experts and not in the local Saudi context. Approximately 50% of the studies that were reviewed looked at different types of DV, and their analyses revealed that emotional abuse was the most prevalent type of violence (22–36%), followed by physical (9–29%), and sexual abuse (4.8–6.9%).

Seven studies examined the risk factors for domestic violence. The examined risk factors varied among the studies, with lower levels of education and alcohol/drug addiction emerging as the factors most significantly associated with DV. DV was also correlated with the victims' perception of poor health. In addition, emotionally and physically abused women reported more frequent doctor visits, depression, insomnia, and somatic symptoms.

At least one in three women is a victim of domestic violence in the Arab world. [31] Hence, it is of critical importance to compare the prevalence and factors of DV in Saudi Arabia with those of other parts of the world. The prevalence of domestic violence among the 11 studies ranged from 32 to 80.7%. There were interstudy heterogeneity and variations in the questionnaires used across studies, which made it difficult to compare the studies. There was one outlier of 80.7% reported in Arar city; this difference might be due to variation in data collection methods and definitions or the use of a predesigned questionnaire by authors without stating the validity or reliability (Abo-Elfetoh and El-Mawgod 2015). However, three studies that used the WHO study questionnaire could be compared, and it was observed that the prevalence of DV ranged from 39.3 to 44.5% in the three major cities of Saudi Arabia, which include Riyadh, Jeddah, and Al-Ahsa (Tashkandi and Rasheed 2009; Afifi et al. 2011; Alquaiz et al. 2017; Eldoseri and Sharps 2017). This prevalence is consistent with the WHO lifetime estimate of 37.7% in Southeast Asia, South America, and East Africa (Peru, Tanzania, Bangladesh, Samoa, Thailand). However, it is higher than the prevalence of DV in countries such as Brazil, Serbia and Montenegro, and Japan. Compared with the WHO global and regional estimates of violence against women, the prevalence in Saudi Arabia was concordant with those of the Eastern Mediterranean, African, and Southeast Asia regions, but it was higher than in other high-income countries (WHO 2013a).

This review highlights the significance and degree of DV in our country. It is imperative for the government to develop policies against domestic violence with the proper implementation of punishments for abusers so that they are held accountable for their actions. Such legal rulings, policies, and procedures will protect and save many lives. To ensure the smooth enactment of these policies, it is imperative to assign responsibilities to all stakeholders, which will result in the protection of victims and the prevention of assaults in the first place. In 2008, a prime minister's decree was issued to expand the jurisdiction of the social protection units; this decree ordered the government to establish laws and procedures to tackle domestic violence (Ministry of Labor and Social Development 2017). In 2013, the Protection from Abuse Act was developed, including 17 articles regulating reporting,

outlining the responsibilities of the Ministry of Social Affairs, and setting rules for punishment of perpetrators (Lardhi 2016).

Another important contribution of this review is to bring the prevalence of DV to the attention of health care authorities in Saudi Arabia. Health care providers, as well as social workers and other first responders in the health, judicial, and security sectors, should have adequate knowledge about this phenomenon. This can be achieved through training programs, which will help stakeholders identify DV cases and provide victims with much-needed help on various levels, such as health care for their injuries; social, legal, and psychological care; and rehabilitation programs to help victims. It is of critical importance to create such programs for a profound beneficial influence on both health care providers and victims. The National Family Safety Program (NFSP) is an agency formed in 2005 by a royal decree of the King as a national program that is administratively linked to the Ministry of National Guard-Health Affairs (Almuneef and Al-Eissa 2011). The NFSP is a quasi-governmental agency dedicated to the prevention of domestic violence through training staff members and raising awareness among individuals and institutions. In 2013, the NFSP reported that a low number of professionals were attending educational programs and called for the health sector to take a larger role in implementing nationwide strategies (Lardhi 2016).

There were a few limitations to this review. First, our search was limited to publications written in English. However, most of the studies conducted in Saudi Arabia are published in English. One of the major limitations was that only cross-sectional studies were included in this systematic review; hence, the temporal relationship of the risk factors with domestic violence cannot be established, which is an inherent limitation of cross-sectional studies. Methodological differences were present in the studies, and they influence the interpretation and comparison of the results. Our review has several strengths. To our knowledge, this is the first review to summarize the available evidence regarding domestic violence in our country. We utilized two commonly used databases, Embase and PubMed, in addition to searching local journals and cross-referencing.

In light of this review, we can conclude that one in every three women in Saudi Arabia is a victim of domestic violence. Although the prevalence varied across studies, due to several definitions used, the different populations studied and the measurement of period prevalence or lifetime prevalence. Lifetime prevalence is the prevalence assessed by the largest study to date on DV by the WHO. The lifetime prevalence of this phenomenon in three cities of Saudi Arabia, Jeddah, Riyadh, and Al-Ahsa, based on the WHO multi-country tool, ranged between 39.3 and 44.5% and is consistent with the prevalence of other countries who participated in the WHO multi-county study. We suggest that further studies at the national level covering all governorates that differ in terms of culture, social context, and health care services provided. These studies must use reliable tools as WHO multi-country tools to collect data on different risk factors of DV, report and compare current strategies and services that have been implemented to address DV to enable preventive and management strategies. We also emphasize the need to communicate these findings directly to decision-making authorities and provide them with essential information to establish new rules and regulations that can find justice and healing for this public health crisis.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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