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What do Victims of Physical Domestic Violence Have in Common? A Systematic Review of Evidence From Eastern Mediterranean Countries

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Context: This systematic review summarizes evidence that pertains to factors associated with physical domestic violence in Eastern Mediterranean region countries.

Evidence Acquisition: We searched Pubmed, EMBASE, ISI, PsycInfo, IMEMR, Ovid, Global health, Cochrane Library, IranMedex, SID, IranDoc, Science Direct, Elsevier, Proquest and Magiran with no language limits until August 1, 2013. A hand search included lists of references from papers and the evidence list from "The Islamic Republic of Iran National Agenda for Preventing Domestic Violence". We chose quantitative studies on ever- partnered, non-pregnant women from Eastern Mediterranean Region countries that referred to either predisposing or protective factors of physical domestic violence at the victims' level. Criteria based critical appraisal was performed by three reviewers.

Results: Younger age at the time of the study, younger age at the time of marriage, unemployment, frailty, history of exposure to domestic violence, and a positive attitude toward male dominance were among the risk factors. Higher level of education was reported to be a protective factor.

Conclusions: Findings are consistent with most international evidences. Further investigations are needed to more comprehensively understand the remainder of the variables.

Keywords: Domestic Violence; Spouse Abuse; Risk Factors; Review; Meta-Analysis

1. Context

Domestic violence (DV) experienced as physical, psychological or sexual abuse is a worldwide phenomenon. It not only threatens women's health, wellbeing, dignity and human rights but also imposes considerable adverse effects on families and communities. According to the World Bank, intimate partner violence (IPV) is responsible for 9 million disabilities adjusted life years (DALYs) lost annually. According to estimates, IPV results in the loss of 9% to 15% of healthy years of lives among 15-45 year old women (1). Because DV impacts the health and well-being of communities, public health must address this issue initially by systematically gathering data on its prevalence, distribution and outcomes, followed by understanding the reasons for DV (2).

Studies have revealed that DV is remarkably prevalent in most social and cultural contexts. The prevalence of women who experience any type of DV during some point of their lives exceeds 34.6% in North America (3), 27%-61% in South America, 31%-49% in Africa, 13%-42% in South East Asia and 23% in Europe (4). According to studies, in the Middle East and North Africa, 25.7% to 62.2% of women have experienced DV during the previous 12 months (5, 6). Regarding the predictors of IPV, the majority of single, local studies have numerous limitations in terms of design, administration, analysis and reporting. Well-known international studies such as “The world studies of abuse in the family environment (World SAFE)” (7), “WHO multi-country study on women’s health and domestic violence” (4), and the “intimate partner violence among couples in 10 DHS countries”(8) have not shown a consistent relationship between DV and pre-assumed risk factors. This inconsistency is mainly attributed to the socio-cultural diversities among study populations. Therefore conducting multi-local comprehensive studies in more socio-culturally similar regions can provide better understanding of DV’s determining factors.

Countries of the WHO Eastern Mediterranean region (EMR) have many socio-cultural characteristics in common, including the “silence” about DV despite its high prevalence. Thus more information about the epide-

Implication for health policy/practice/research/medical education:
Interventions to tackle physical domestic violence against women in EMR countries, should address education, employment, all other forms of domestic violence in families and cultural believes.

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miology and etiology of DV in this part of the world is needed, while working on the effectiveness of preventive strategies is the priority in other regions (9).

the present study is a systematic review and meta-analysis that sums the evidence from EMR countries on risk factors of physical DV at the victims' level based on the WHO ecologic model of addressing DV in four interrelated levels [individual (victim-perpetrator), relationship, community and societal].

2. Evidence Acquisition

2.1. Data Sources

We conducted a search of PubMed, EMBASE, ISI, PsycInfo, IMEMR, Ovid, Global Health, Cochrane Library, IranMedex, SID, IranDoc, Science Direct, Elsevier, Proquest and Magiran with no language limits until August 1st, 2013. Hand searching included lists of references from papers and the evidence list from "The Islamic Republic of Iran National Agenda for Preventing Domestic Violence". "The UN Secretary-General's database on violence against women" was also searched.

2.2. Search Strategy

We combined population keywords (Afghanistan*, Bahrain*, Djibouti*, Egypt*, Islamic Republic of Iran, Iran*, Iraq*, Jordan*, Kuwait*, Lebanon*, Libyan Arab Jamahiriya, Libyan*, Morocco*, Oman*, Pakistan*, Qatar*, Saudi Arabia*, Sudan*, Somalia*, Syrian Arab Republic, Syrian*, Tunisia*, United Arab Emirates, Yemen*, Middle East and women) with index (risk factor*, risk marker*, predictor*, predict* factor*, determin* factor, determinant) and outcome keywords (domestic violence, intimate partner violence, intimate partner abuse, spouse* abuse) according to each database search specifications with the intent to answer the structured study question. The customized search strategy for Pubmed is provided in Appendix 1.

2.3. Study Selection

Quantitative studies regardless of design that had a target population of ever-partnered, non-pregnant women who were both natives and residents of any EMR country that addressed either predisposing or protective factors of physical DV were included when their full reports available in English, Persian, Arabic or French. "The strengthening the reporting of observational studies in epidemiology (STROBE)" statement check lists for observational studies were used for critical appraisal. Both screening and quality assessment processes were standardized, unblinded and performed by two independent reviewers. We resolved disagreements by consensus.

2.4. Data Extraction Process and Items

A reviewer used a uniform data extraction sheet to extract the following items from each paper: bibliographic information [first author, publication date (year)], general information [study date (year), place (country)], field of study (urban, rural, refugee camps), sample size, and study design, and statistics [adjusted/crude odds ratio (OR), 95% CI or P value]. Extracted items were double checked by the second reviewer. If two or more papers published repeated results of one study, only one was included in final review. If the results were different (but not contradictory) both were included. If one paper presented data from two or more independent studies or time periods, we treated each dataset as an independent study. Disagreements were resolved by the third reviewer's decision.

2.5. Summary Measure

The OR of all reported factors, regardless of statistical significance, were either directly extracted from the papers or indirectly calculated from provided contingency tables.

2.6. Bias Prevention

We searched for potential sources/risk of bias of each study in the quality assessment process.

3. Results

The initial search retrieved 1105 studies. After removing 720 duplicate records, we screened the titles and abstracts of 365 studies with respect to the inclusion criteria. A total of 48 screened records were candidates for the critical appraisal process. Of these, 16 studies were eligible for systematic review (Figure 1, Table 1).

3.1. Qualitative Summary

According to the extracted odds ratios (adjusted ORs wherever applicable) from the 16 reviewed studies, a number of variables significantly differed in women who experienced physical DV when compared with their counterparts. Younger age at the time of the study (15, 19, 20), younger age at the time of marriage (12, 14, 23), unemployment (18, 20, 21), frailty versus strong religious beliefs (13), witnessing IPV (between parents) during childhood (18, 24, 25), history of DV against girls or gender discrimination in family of origin (6, 14, 26) being bad-tempered (17), having positive attitude toward male dominance (20), smoking (23), mental distress (23), impaired mental health (22, 27), and economical dependency (12) were reported to be risk factors for physical DV. A higher level of education, either in terms of literacy versus illiteracy or in terms of receiving a university education versus being educated for 12 years or less was reported to be a protective factor (Table 2)(10, 11, 15, 16, 18-21, 23, 28).

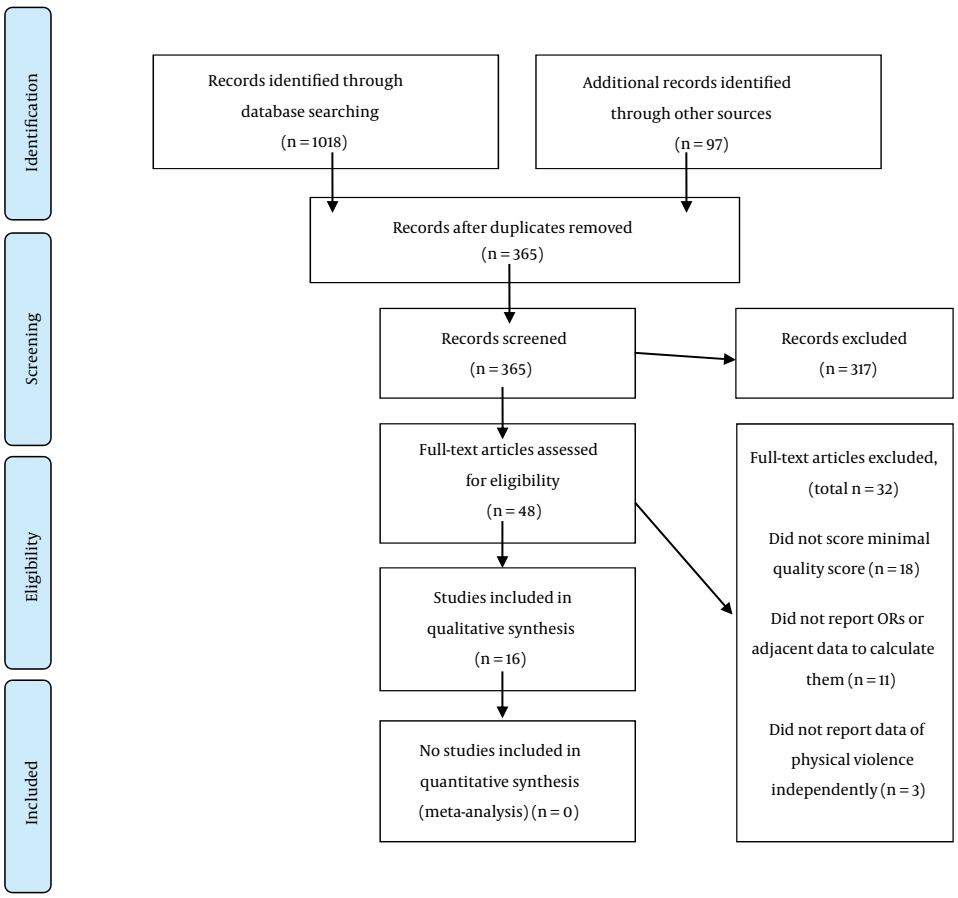

Figure 1. Study Identification and Selection Diagram

Table 1. Characteristics of the 16 Reviewed Studies [a]

First Author (Publication Year)	Study Date (Year)	Place (Country)	Sample Size	Sampling Method	Study Design	Period Under Investigation	Instrument
Ali et al. (10)	2008	Pakistan	759	random	c/s, com/b	LT	I + SQ
Clark et al. (11)	2005-6	Palestine	3510	multistage	c/s, com/b	PY	SQ + I
Mohammadhosseini et al. (12)	2006-7	Iran	300	convenience	c/s, com/b	LT	I + Q
Tashkandi et al. (13)	2004	Saudi Arabia	689	multistage	c/s, clin/b	LT/PY	SQ + I
Yount et al. (14)	2005	Egypt	5272	multistage	c/s, com/b	PY	I + SQ
Afifi et al. (15) [b]	2006	Egypt	5249	random	existing data	PY	existing data
Akmatov et al. (16) [b]	1995 & 2005	Egypt	7122 (1995)	multistage	c/s, com/b	PY	existing data
Akmatov et al. (16) [c]	1995 & 2005	Egypt	5612 (2005)	multistage	c/s, com/b	PY	existing data
Naeem et al. (17)	2005	Pakistan	692	convenience	c/s, clin/b	LT	SQ + I
Bakr et al. (18)	2004	Egypt	509	convenience	c/s, clin/b	LT	Q + I
Bint-Al Hussein, et al. (19)	2002	Jordan	798	random	c/s, com/b	PY	Q + I
Faramarzi et al. (20)	2002-3	Iran	2000	convenience	case-control	PY	Q + I
Faramarzi et al. (20)	2002-3	Iran	2400	convenience	c/s, clin/b	PY	SQ + I
Ghazizadeh et al. (21)	2000	Iran	1000	random	c/s, com/b	LT	SAQ
Jeyaseelan et al. (22)	1997-2003	Egypt	631	multistage	c/s, com/b	LT	SQ + I
Maziak et al. (23)	2002	Syria	411	multistage	c/s, clin/b	PY	SQ + Q + I

[a] Abbreviations: clin/b, clinic-based; com/b, community-based; c/s, cross-sectional; I: interview; LT, lifetime; PY, previous year; Q , questionnaire; SAQ , self-administered questionnaire; SQ , standard questionnaire.
[b] Randomly selected from demographic and health surveys (DHS) 2005 data.
[c] Used all data from two demographic and health surveys (DHS)-multi-stage, cross-sectional, community-based studies conducted in 1995 and 2005 in Egypt.

Table 2. Reported Odds Ratios (OR) of Determinants of Physical Domestic Violence (DV) in 16 Retrieved Studies [a]

	Basic Group	Comparison	OR (95% CI) [b]
Age, y			
Afifi. et al. (15)	continuous variable		0.97 (P < 0.05) [b]
Faramarzi et al. (20)	> 20	≤ 20	2.23 (1.59-3.14) [c]
Faramarzi et al. (20)	> 20	≤ 20	0.7 (0.5-1.1) [b]
Bint-Al Hussein et al. (19)	≥ 30	< 30	1.2 (0.58-2.48) [c]
Bint-Al Hussein et al. (19)	≥ 20	< 20	1.9 (0.95-4.06) [c]
Maziak et al. (23)	continuous variable		0.9 (0.9-1) [b]
Age at the time of marriage			
Mohammadhosseini et al. (12)	≥ 18	< 18	2.49 (1.28-4.83) [b]
Yount, KM. et al. (14)	continuous variable		0.97 (0.95-0.99) [b]
Education, y			
Ali et al. (10)	Educated	received no formal education	1.29 (0.93-1.78) [c]
Mohammadhosseini et al. (12)	> 12	≤ 12	4.97 (2.03-12.14) [b]
Clark et al. (11)	9-12	7-8	1.38 (1.08-1.77) [c]
		< 6	1.52 (1.18-1.96) [c]
Afifi et al. (15)	high school graduate/ university education	not a high school graduate	0.62 (P< 0.05) [b]
Akmatov et al. (16)	> 12	Illiterate	0.77 (0.56-1.07) [c]
Akmatov et al. (16)	> 12	1 to 12	1.55 (1.15-2.1) [c]
Akmatov et al. (16)	> 12	Illiterate	1.06 (0.8-1.4) [c]
Akmatov et al. (16)	> 12	1 to 12	1.18 (0.9-1.54) [c]
Faramarzi et al. (20)	> 12	≤ 12	1.7 (1.35-2.27) [c]
Faramarzi et al. (20)	> 12	≤ 12	1.4 (0.7-2.66) [b]
Bakr et al. (1)	> 12	≤ 12	1.76 (1.01-3.06) [c]
Ghazizadeh et al. (21)	> 12	illiterate	6.1 (2.94 -12.68) [c]
Ghazizadeh et al. (21)	> 12	1 to 12	3.5 (1.7-7.22) [c]
Ghazizadeh et al. (21)	> 12	0 to 12	4.39 (2.15-8.96) [c]
Bint-Al Hussein et al. (19)	> 12	illiterate	8.4 (0.96-74.6) [c]
Bint-Al Hussein et al. (19)	> 12	1 to 12	8.99 (1.2-66.95) [c]
Jeyaseelan et al. (22)	> 8	≤ 8	0.98 (0.9 -1.06) [b]
Maziak et al. (23)	< 12	illiterate	1.6 7 (1-3.33) [b]
Maziak et al. (23)	≥ 12	illiterate	10 (1.43-33.33) [b]
Having a paid job			
Clark et al. (11) [c]	yes	no	1.5 (0.97- 2.31) [c]
Akmatov et al. (16)	yes	no	1.14 (0.94-1.39) [b]
Akmatov et al. (16)	yes	no	0.99 (0.82-1.19) [b]
Faramarzi et al. (20)	yes	no	2.95 (1.48-5.91) [c]
Faramarzi et al. (20)	yes	no	1.3 (1.1-2.9) [b]
Bakr et al. (18)	yes	no	0.75 (0.47-1.18) [c]
Ghazizadeh et al. (21)	yes	no	2.88 (1.79-4.64) [c]
Religious beliefs			
Tashkandi et al. (13)	strong	moderate/weak	0.4 (0.24-0.77) [b]
Being bad tempered			
Naeem et al. (17)	no	yes	1.31 (P = 0.000) [b]
Witnessing DV during childhood			
Mohammadhosseini et al. (12)	no	yes	2.93 (1.51-1.67) [b]
Tashkandi et al. (13)	no	yes	2.5 (1.44-4.25) [b]

Jeyaseelan et al. (22)	no	yes	0.39 (0.16-0.92) [b]
Being a DV victim during childhood			
Yount et al. (14)	no	yes	1.79 (1.57-2.01) [b]
Yount et al. (14)	no	yes	1.95 (1.37- 2.53) [b]
Experiencing stressful events in life			
Naeem et al. (17)	no	yes	0.96 (P = 0.35) [b]
Positive attitude toward male dominance			
Faramarzi et al. (20)	no	yes	4.8 (2.9-8) [c]
Concurrent exposure to mental violence			
Faramarzi et al. (20)	no	yes	1.1 (0.05-2.6) [b]
Concurrent exposure to sexual violence			
Faramarzi et al. (20)	no	yes	0.4 (0.3-0.6) [b]
Smoking			
Maziak et al. (23)	no	yes	2 (1-4.1) [b]
Psychological stress			
Maziak et al. (23)	no	yes	4.3 (2.3-8) [b]
Altered mental health status			
Jeyaseelan et al. (22)	Healthy	positive in screening	3.22 (1.61-6.89) [b]
General health status			
Jeyaseelan et al. (22)	excellent	moderate	1.28 (0.59-2.78) [b]
Personal assets			
Jeyaseelan et al. (22)	continuous variable		0.93 (0.61-1.41) [b]
Economical dependency			
Mohammadhosseini et al. (12)	no	yes	(1.99-8) [b]

[a] Abbreviation: DV, domestic violence.
[b] Adjusted odds ratio (OR).
[c] Crude odds ratio (OR).

4. Conclusions

We have located only 6 appropriate studies from 21 countries which indicate the real scarcity of data about physical DV against women in EMR countries. This may be explained by the assumption that IPV is a private matter of marital life in addition to certain socio-cultural legitimizations and rationalizations. The present study found illiteracy, lack of a university education, younger age at the time of study and marriage, witnessing IPV between parents during childhood, history of DV against girls or gender discrimination in women's family of origin, frailty, unemployment and women's positive attitude toward male dominance to be the most consistent characteristics of women who experienced physical DV in EMR countries.

Education increases peoples' communicating skills, empowers women and enhances their social capital. Hence, education plays both direct and indirect roles in the prevention of IPV (4, 8, 29-32).

Witnessing IPV (between parents) during childhood imposes a risk through the mechanism called "intergenerational cycle of abuse" (32-35). As the witness learns that violence is a way to deal with marital problems, it is more probable that he perpetrates violence against his partner(s) or she accepts abuse by her partner(s) in the future. A positive attitude toward male dominance was the strongest reported risk factor among study variables. Patriarchy and superstitious beliefs about women as the lower rank in creation, which is deeply rooted in most cultures, rationalizes violence against women (36, 37).

The present systematic review, to the best of our knowledge, is the most comprehensive investigation considering the numbers of countries and determinant factors studied. Although the best evidence to support causative relationships are determined by conducting randomized controlled trials, neither randomized controlled trials or cohort studies have been conducted on the determinants of DV in EMR countries. Therefore the ORs have been extracted from one case-control (level II-2 evidence) and 15 cross-sectional (level III evidence) studies.

Risk factors for physical DV at the victims' level in EMR countries are almost the same as those proposed in other regions, however their rank orders may vary from site to site. Therefore it is reasonable to think that interventions proven to be effective in other regions will be applicable to EMR countries. However specific modifications regarding "good womanhood" and "successful manhood"

should be taken into account and prioritization made according to a country's rank order. According to WHO, one of the most important roles of public health in addressing DV is addressing social and cultural norms related to gender that support IPV (38). Therefore, there are implications for interventions that address the positive attitude toward male dominance. Better evidence is needed regarding the different dimensions of this attitude both in women and men in addition to strategies to amend it.

To tackle DV effectively, all four levels of the WHO ecologic model should be emphasized. We have found that currently available studies mainly focus on individual and relationship levels. Thus more research should be performed to understand community and societal factors in EMR countries.

We recognize that qualitative studies generate a large body of evidence addressing DV and its determinants. Therefore complementary studies in the form of meta-synthesis studies may reveal more facts.

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Authors' Contribution

Preparing the protocol: Nojomi and Davoudi; data gathering: Davoudi and Ahmadzad Asl; data summarization and interpretation: Nojomi, Davoudi, Ahmadzad Asl and Rasoulian; Preparing the manuscript: Nojomi and Davoudi.

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