REVIEW ARTICLE

Prevalence of Intimate Partner Violence among Iranian Women: A Systematic Review and Meta-analysis from 2010-2020

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Abstract

Background: Intimate partner violence (IPV) is a significant public health issue, especially in developing countries. This study aimed to provide a systematic review and meta-analysis of IPV among married Iranian women.

Methods: In this systematic review and meta-analysis, following PRISMA guidelines, eight electronic databases were searched for quantitative articles, with the target population of married Iranian women. Articles from 2010 to 2020 were extracted and assessed with an 8-scored checklist for risk of bias. Different types of IPV include mental, physical, and sexual types. Heterogeneity was assessed with I^2 and Q tests. Random effect model was used for meta-analysis. Factors such as income, education, employment, mean age, urbanization, and human development index (HDI) were assessed within homogenous groups.

Results: Thirty-four studies (19,445 participants) were included. The mean age of women was 33.4 years. The overall prevalence of past-year IPV was estimated at 62.6% (CI: 53.6-71.5). Mental, physical, and sexual violence were estimated at 59% (CI: 53.7-64.4), 30.8% (CI: 26.2-35.4), and 29% (CI: 22.4-35.5), respectively. The results revealed that a negative correlation existed between the occurrence of violence and higher education, higher HDI indices for regions, and employment.

Conclusion: The findings of this study indicate that IPV exists in high proportions in Iran. Improving the economic situation, increasing education, and raising public awareness through social media are the preventive factors.

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Keywords: Intimate partner violence, Prevalence, Meta-analysis, Iran

Introduction

Intimate partner violence (IPV), defined as physical, sexual, psychological (mental), or threat of abuse, by a current or former spouse or partner is a critical public health concern.[1] The concept of violence varies a lot in different times and cultural structures; however, many efforts have been made to study violence.

Violence against women is recognized as a major public health and human rights issue.[2] IPV exists in all societies and cultures, and women of all races, classes, and positions suffer from violence.[3] Beliefs, values, culture, legislation, mass media, formal organizations, and institutions at the social level, as well as socioeconomic conditions, education, age, gender, and experiencing violence are some individual factors that shape the attitude toward violence against women.[4]

IPV is considered a private matter, so collecting data can prove inaccurate;, however according to the

latest World Health Organization estimates from data from 80 countries, approximately one in three women is physically or sexually abused in her lifetime, and 38 percent of the murders of women are committed by a man close to them.[5] Studies in different countries show different prevalence rates of violence against women. Countries with highest rates are from Sub-Saharan Africa or Southern Asia regions. According to the WHO report, the rate of physical and sexual violence among Iranian women is 31% in lifetime and 18% in past years. Psychological violence among Iranian women is reported to be up to 80%.[6] In a recent study, the prevalence of all types of IPV was 54.2% which increased more than 10% in the first 6 months of COVID-19 pandemic.[7]

Over the last few years, one systematic review has been published on violence against Iranian women.[8] However, so far no meta-analysis has been performed on the articles, which calls for analysis of available data. In this review, we reduced heterogeneity by dividing data into similar subgroups and then entering probable risk factors and studied their effects on IPV for the first time in Iran.

Methods

The present study is a systematic review and meta-analysis conducted based on PRISMA guideline 2020, which is a 27-item checklist for reporting regular meta-analysis review articles.[9]

Search Strategy

International databases including PubMed, Google Scholar, Scopus, and local Farsi databases including Scientific Information Database (SID), Magiran, and IranMedex were searched for articles published from 2010 to 2020. Keywords in both English and Farsi languages were used such as violence, domestic violence, violence against spouse, violence against women, spousal abuse, spouse violence, and search operators (AND, OR, WITHOUT). Two researchers (FR and AA) evaluated the articles independently and stated the reason for exclusion. In case of disagreement, the corresponding author (AS) who had expertise in meta-analysis was consulted. In the end, the corresponding author evaluated and confirmed the included articles. All the steps of the search and study selections were done in the Autumn of 2020.

Inclusion criteria were all quantitative articles in the English or Farsi languages, published in scientific journals, with online access, and with the target population of married Iranian women that determined the prevalence of intimate partner violence. Exclusion criteria were review studies, case reports, and populations with specific illnesses or disabilities, including elderly/children, diabetics, HIV (women with human immunodeficiency syndrome), or infertile women. We also excluded the studies on violence against pregnant/postpartum women, where a large number of studies were found and merit a separate review.

Quality Assessment

To appraise the articles, we used the Loney critical appraisal tool for studies assessing prevalence which has an 8-part scoring system stratified from zero to a maximum score of eight.[10] (1) Random Sample or whole population, (2) Unbiased sampling frame (i.e. census data), (3) Adequate sample size (>300 subjects), (4) Measures as the standard, (5) Outcome measured by unbiased assessors, (6) Adequate response rate (70%), refusers described, (7) Confidence intervals, subgroup analysis, and (8) Study subjects described.

Data Collection

Data collection was done using a designed form, which included items such as article title, first author, year of publication, year of study, city, province of study, and more specific information such as sample size, sample collection method, age range of women, collection tools, prevalence of total domestic violence and related subgroups, the period for measuring violence and scoring quality assessments.

In addition to the collected data, HDI for each studying province and the urban-rural ratio of households were included.[11] The urban and rural ratios were obtained by dividing the population of urban and rural areas by the total population of that area.

Data Preparation

IPV is categorized into mental, physical, and sexual subtypes. Overall violence was extracted as a separate variable to be used for comparison because of the various methodologies. Published year, data collection date, HDI, urban/rural ratio, sample population, sample size, sampling method, and age were used for regression analysis.

Although the definition of IPV and its subtypes are clear, in practice researchers classify, define, and measure IPV in different ways. Since prevalence rates in this study were extracted directly from published sources, we did not try to impose standardized definitions. Instead, practical definitions were extracted from each source (when available) and described as part of the data. For ease of interpretation, the term 'mental' is used to refer to all forms of violence that researchers labeled as 'emotional', 'psychological', 'verbal', and 'social' violence.

Violence has been measured in most articles over the one-past-year period. In addition, most standard questionnaires measure violence over the same period. Therefore, in our study, the prevalence of violence in the last year was extracted from articles.

Statistical Analysis

The prevalence is a binomial variable; the prevalence variance was calculated through the variance of the binomial distribution. Meta-analysis was used to determine prevalence; we used the random effects model, which gives a more accurate and strong prediction of effect size and is appropriate for meta-analysis in the presence of heterogeneity. The random effects model weighs studies with the inverse of the intra-study variance of each primary study; this accounts for inter-study as well as intra-study variance. Intra-study heterogeneity was evaluated using Cochran Q and I^2 statistics. The Q statistic was given by $\chi 2$ and p values, and the I^2 index was expressed in percentage; the higher the percentage, the higher the heterogeneity (25%, 50%, and 75%, i.e. low, medium, and high, respectively). In the comparison of the two groups with regard to frequency, the Q statistic was used.

Forest diagrams using the Chi-squared test were drawn to give a graphical representation of the studies and show the extent of heterogeneity between prevalence estimates. Data analysis was performed using STATA Statistical Software: Release 16. College Station, TX: StataCorp LP.

Results

The search through PubMed and other databases generated 2276 records. Duplicates were removed (accounting for 330 articles, and about 14.4% of all records), and a total of 1946 records were identified. Screening of the title and abstracts excluded 1826 articles that were irrelevant to the topic (not studying IPV). Finally, 120 full-text articles were assessed for eligibility and screened against the inclusion and exclusion criteria. A total of 86 articles were further excluded because they were reviews, gray articles, reports, and other ineligible articles. A final total of 34 studies were selected for further analysis (Figure 1. Flow chart of PRISMA).

The total sample size was 19,445, an average of 572 per article. The smallest sample size was 110 [12] and the largest was 2091.[13] Thirteen articles (38.2%) were in Persian and twenty-one (61.8%) in the English language. Some of the most important characteristics of the selected articles are presented in Table 1.

The patient sampling was 11% in the city area and 76% from hospitals and health care centers. All studies used a questionnaire to collect data, among which 32.4% used a standard questionnaire, the most widely used of which was the Revised Conflict Tactics Scale (CTS2) (17.6%). The second mostly used questionnaire was the WHO domestic violence one (14.7%). Most of the articles (73.5%) used random sampling method. The mean age of the participants was 33.4 (range; 26.5 to 43.4 years). None of the articles scored eight on our quality appraisal, with 14.7% scoring seven and about 65% scoring at least five. Figure 2 shows the quality assessment of articles.

The prevalence of overall violence was 62.6% (CI: 53.6-71.5) with mental, physical, and sexual violence comprising 59% (CI: 53.7-64.4), 30.8% (CI: 26.2-35.4), and 29% (CI: 22.4-35.5) of the cases, respectively.

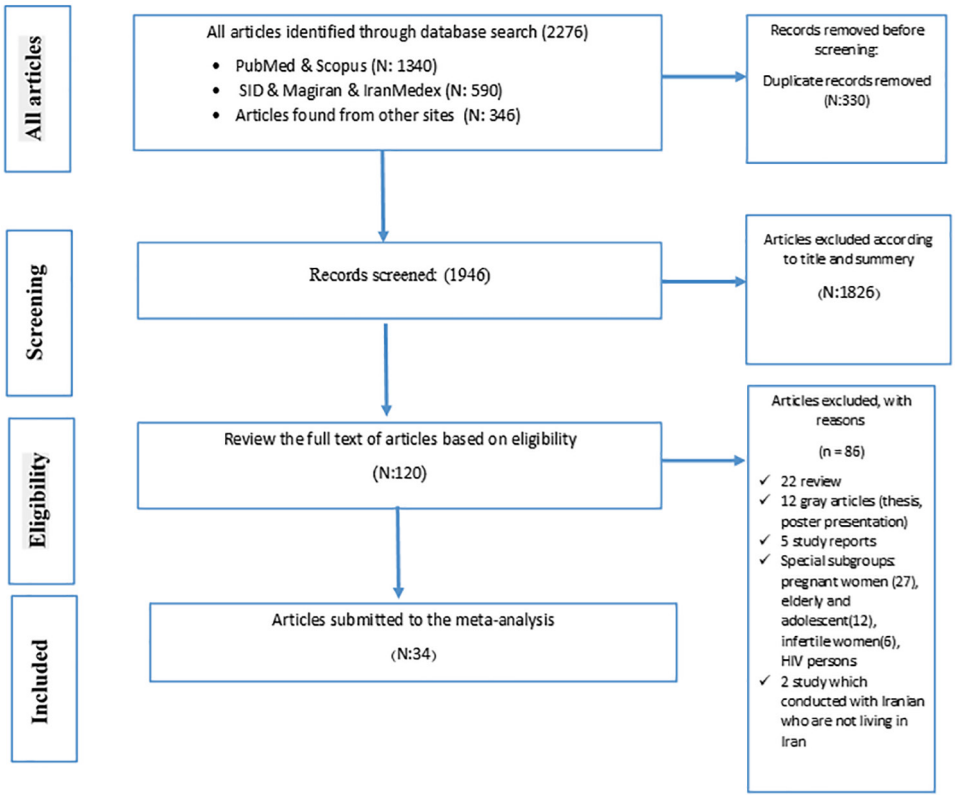

Figure 1: The flow diagram of the study

Table 1: The summary of data extracted from thirty-four articles arranged by province and year of publication

Author/ reference	Published Year	Province	Language	Sampling	Sample Size	Assessment tool	Mean age	Urban/ Rural ratio	Human Development Index (HDI)	Physical violence	Sexual violence	Mental violence	Overall violence
Vakili et al.[14]	2010	Fars	English	Random	702	Designed questionnaire by authors	32.4	55.6	0.717	43.7	30.9	82.6	-
Kargar Jahromi et al.[15]	2016	Fars	English	Non-random	988	Designed questionnaire by authors	29.18	70.8	0.717	16.4	18.6	44.4	49.4
Jamali et al.[16]	2016	Fars	English	Non-random	813	Designed questionnaire by authors	26.53	70.8	0.717	14.3	10.2	31.4	43.2
Moazen et al.[17]	2019	Fars	English	Random	430	WHO multi-country study (WHO, 2005)	38.29	91.6	0.717	18.2	14	52	54.5
Ahmadi et al.[12]	2014	Gilan	Farsi	Non-random	110	WHO multi-country study (WHO, 2005)	33.94	78.2	0.693	33.88	30.09	44.13	-
Ahmadi et al.[13]	2017	Gilan	English	Random	2091	CTS-2	35.9	78.2	0.693	27.6	26.6	57.1	-
Rahnavardi et al.[18]	2019	Gilan	Farsi	Non-random	200	WHO multi-country study (WHO, 2005)	32.96	78.2	0.693	-	35.5	-	-
Saffari et al.[19]	2017	Gilan, Kerman, Kermanshah, Sistan and Baluchestan, Tehran Qazvin	English	Random	1600	Designed questionnaire by authors	30.8	86.72	0.7	28	18	64	-
Fallah et al.[20]	2016	Golestan	Farsi	Random	273	Designed questionnaire by authors	29.4	55.9	0.681	32.8	33.7	49	-
Derakhshanpour et al.[21]	2014	Hormozgan	Farsi	Non-random	500	Designed questionnaire by authors	33.8	79.8	0.7	24.8	6.8	54	92
Mohamadian et al.[22]	2016	Ilam	English	Random	334	Designed questionnaire by authors	32.5	84.99	0.676	33.8	23.7	54.2	62
Keyvanara et al.[23]	2014	Isfahan	Farsi	Random	390	Designed questionnaire by authors	28.6	94.1	0.736	24.87	-	52.82	-
Abbaspoor et al.[24]	2016	Isfahan	English	Random	600	CTS-2	29.16	94.1	0.736	33.2	39.3	59.7	61.7
Ansari et al.[25]	2017	Isfahan	Farsi	Random	385	Designed questionnaire by authors	37.65	89.5	0.736	44.2	-	-	79.5
Sheikhbardsiri et al.[26]	2018	Isfahan	Farsi	Random	600	Designed questionnaire by authors	35	94.1	0.736	36.16	6.66	55.33	-
Torkashvand et al.[27]	2013	Kerman	Farsi	Random	540	Designed questionnaire by authors	31.28	52.3	0.704	23.1	18.9	38.1	-
Sheikhbardsiri et al.[28]	2020	Kerman	English	Random	400	Designed questionnaire by authors	30.23	85.5	0.686	29.25	10	58	-
Elahi et al.[29]	2012	Khuzestan	Farsi	R	368	CTS-2	36.8	91.54	0.693	43.4	34.2	58.8	63
Nikbakht Nasrabadi et al.[30]	2015	Khuzestan	English	Random	368	Designed questionnaire by authors	36.8	91.54	0.693	34.4	34.2	58.8	63.8

Fakharzadeh et al.[31]	2018	Khuzestan	Farsi	Random	623	Designed questionnaire by authors	31.72	84.1	0.693	17.8	7.1	71.7	72.3
Nouri et al.[32]	2012	Kurdistan	English	Random	770	Designed questionnaire by authors	36.5	77.4	0.657	60	32.9	79.9	-
Zarei et al.[33]	2017	Kurdistan	English	Random	700	Designed questionnaire by authors	32.6	82.5	0.657	-	52.4	42.2	-
Afkhamzadeh et al.[34]	2019	Kurdistan	English	Non-random	360	WHO multi-country study (WHO, 2005)	32.69	82.5	0.657	49.9	48.7	62.2	71
Rahmatian et al.[35]	2015	Mazandaran	English	Random	380	CTS-2	40	69.6	0.721	42.3	71.7	82.6	83.1
Mohammad-beigi et al.[6]	2019	Qom	English	Random	240	CTS-2	33.1	98.1	0.688	28.8	28.3	80.8	
Moghaddam Hosseini et al.[36]	2013	Razavi Khorasan	English	Random	251	CTS-2	26.9	80.3	0.694	35.1	57	66.5	78.1
Hajian et al.[37]	2014	Semnan	English	Random	645	Designed questionnaire by authors	36	80.8	0.72	19.6	-	85.5	-
Ansari et al.[38]	2013	Sistan and Baluchestan	Farsi	Random	354	Designed questionnaire by authors	31.28	88.1	0.631	44.9	62.7	55.4	-
Khayat et al.[39]	2017	Sistan and Baluchestan	English	Random	400	Designed questionnaire by authors	26.72	88.1	0.631	18	39	62	-
Moasheri et al.[3]	2012	South khorasan	Farsi	Non-random	414	Designed questionnaire by authors	30.01	77.9	0.678		8	45.7	42.3
Rasoulian et al.[40]	2014	Tehran	English	Random	1000	Designed questionnaire by authors	43.4	99.4	0.769	6.6	-	-	-
Ahmadzad-Asl et al.[41]	2016	Tehran	English	Random	615	Designed questionnaire by authors	42.6	99.4	0.769	18.9	-	-	20.3
Setayesh et al.[42]	2017	Tehran	Farsi	Non-random	501	Designed questionnaire by authors	32.8	60	0.769	58.5	-	83	84.4
Vameghi et al[43]	2018	Tehran	English	Random	500	WHO multi-country study (WHO, 2005)	28.22	99.4	0.769	16.4	15	36.6	43.2

HDI: Human Development Index; Farsi: Persian language

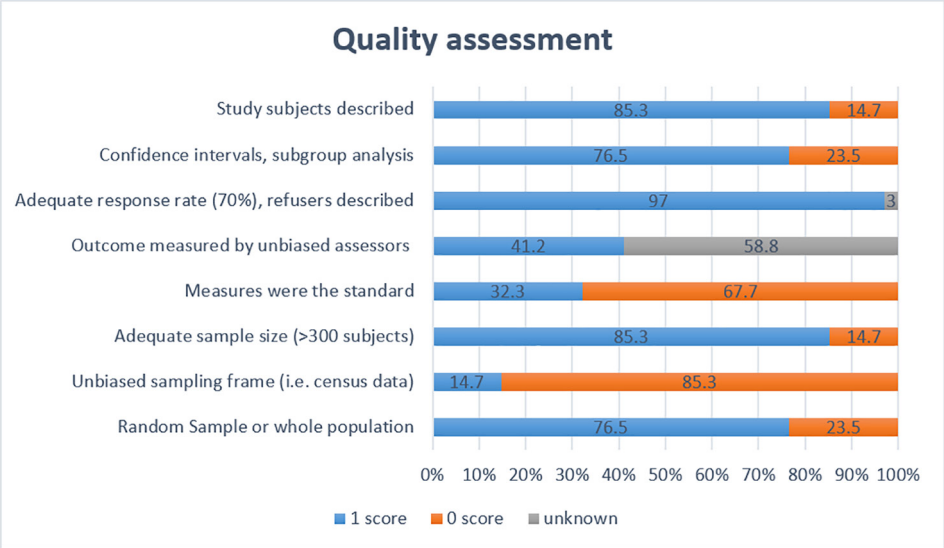

Figure 2: Bar chart of quality assessment, showing the percentage of articles that met the qualification criteria

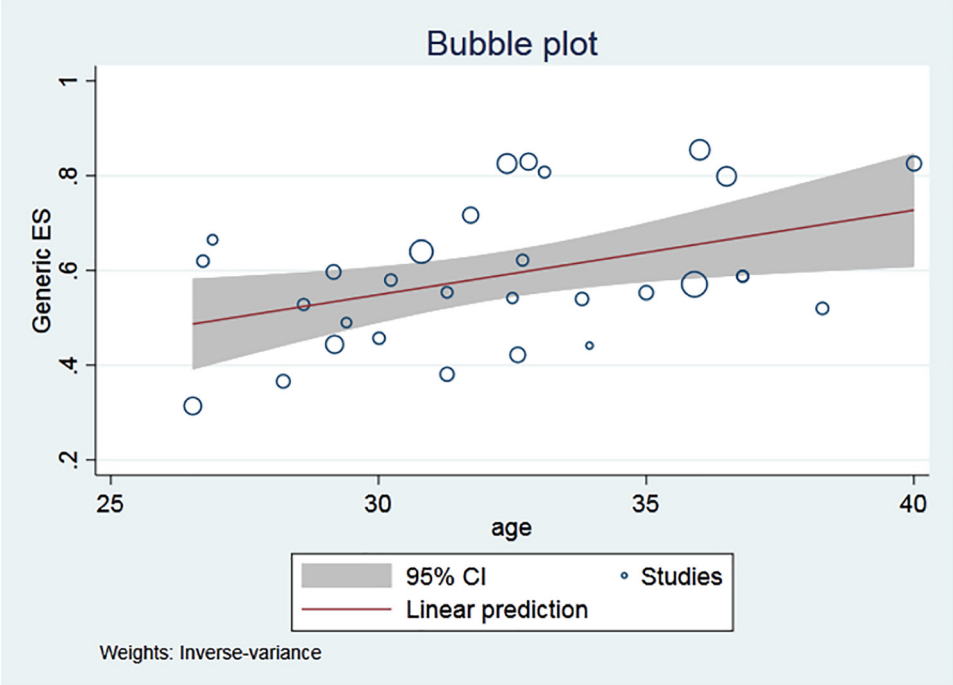

Figure 3: Bubble plot depicting the linear prediction between age and mental violence

Subgroup Analysis

The prevalence of total violence among employed and educated women with a degree higher than the diploma was 46.1% (I^2=78.84, P=0.0004) and 50% (I^2=45.14, P=0.06), respectively. This variable was also significant when applied to family income as it was estimated at 69% (I^2=69.22, P=0.022) for low-income families and 56% (I^2=70.8, P=0.033) for those with higher income levels. In studies that considered "having no children" as a variable in addressing IPV, the prevalence of total violence in this subgroup was 46% (I^2=25.2, P=0.272). Data in the "no children" subgroup were homogenous and the prevalence of physical violence in the mentioned group was calculated at 19.7%, (I^2=75.73, P=0.0015). In studies conducted in the provincial capital, the prevalence of mental violence in women older than 35 years old was 56.5% (I^2=15.25, P=0.221). Studies that reported the urban/rural ratio showed that the prevalence of sexual violence in urban areas was 43.2% (I^2=73.54, P=0.0519) and in rural areas 49.9% (I^2=55.42, P=0.134). In addition, this number was 26.6% (I^2=0.02, P=0.482) for women whose spouses were drug abusers.

Meta-regression

Meta-regression was used to assess the effect of variables on the homogeneity of violence among the

studies. There was no link between variables and physical violence. For overall violence, a significant relationship was established between violence with urbanization and sample size with coefficients of -0.09 and -0.0005, respectively. As presented in Figure 3, there was a positive coefficient (0.02) relationship between the mean age and mental violence. In the case of sexual violence, regression coefficients for the two variables, HDI with a coefficient of -3.1, and the type of questionnaire with a coefficient of 0.18 were significant.

Heterogeneity

There was a significant (P<0.001) heterogeneity between the studies, based on forest plots of prevalence estimation of IPV and all its subtypes (Figures 4-7).

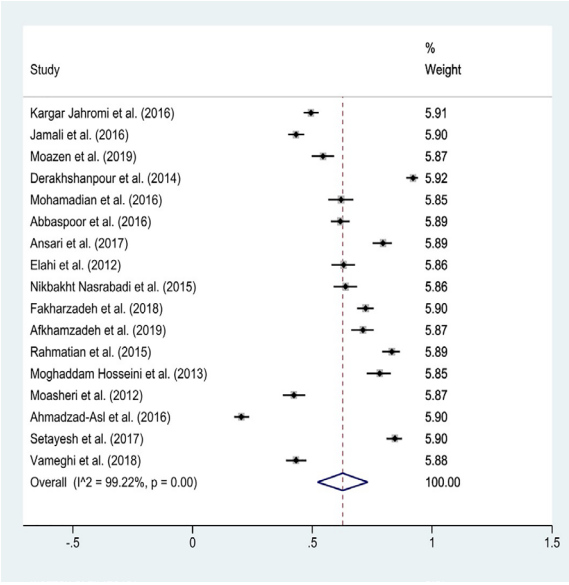

Figure 4: Forest plot depicting the heterogeneity within articles on overall violence prevalence

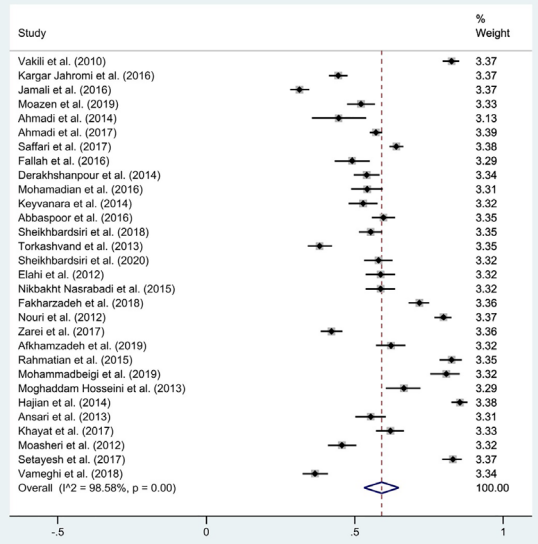

Figure 5: Forest plot depicting the heterogeneity within articles on the prevalence of mental violence

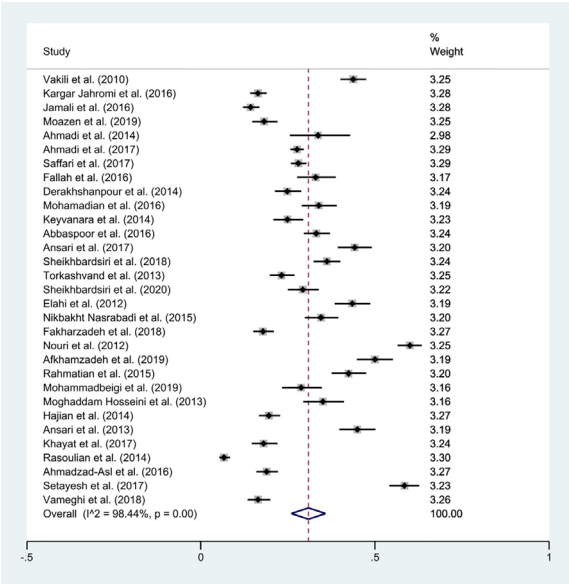

Figure 6: Forest plot depicting the heterogeneity within articles on the prevalence of physical violence

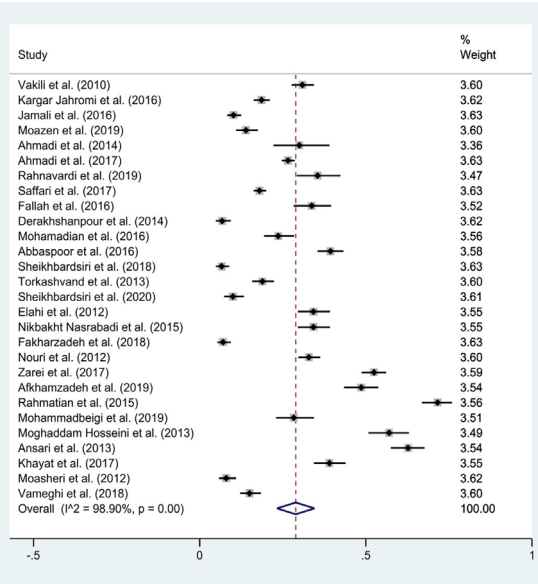

Figure 7: Forest plot depicting the heterogeneity within articles on the prevalence of sexual violence

Discussion

IPV Prevalence

We conducted a systematic review and meta-analysis of the prevalence of IPV against women in Iran. Out of 19,445 cases, two out of every three women were exposed to at least one type of violence and about one out of every three women experienced physical or sexual violence. Mental violence was the most prevalent and sexual violence was the lowest prevalent form of violence.

Our findings are in the same line with the last systematic study in Iran which reported the prevalence of mental violence, physical violence, and sexual violence to be 59%, 45%, and 32%, respectively,[44] an overall high prevalence that heralds an important women's issue in Iran.

Urbanization and Human Development Index (HDI)

According to the meta-regression analysis of our study, total violence and sexual violence had a negative correlation with the ratio of urbanization and HDI of regions, respectively. Thus, with increasing urbanization, total violence decreases, and increasing HDI of regions reduces sexual violence. In various studies, the statistics of violence in the urban-rural ratio are often reported to be contradictory. One of the reasons is the simultaneous presence of predisposing and protective factors. In the urban areas, the opportunity for independent employment and income for women, the existence of social work organizations for women at risk of violence, and the lack of a patriarchal culture were among the protective factors.[45] On the other hand, many reports indicate high rates of violence, especially in poor urban areas.[46-48]

Another reason for the discrepancy in the statistics on urban-rural violence is the cultural difference between them. The nature of violence in urban and rural areas seems to be different, so rural women do not consider some of the components of violence as violence. for example, in a study, women in Ethiopian villages did not consider being beaten by their husbands because of leaving the house without their permission to be violent because they have accepted it.[45] Therefore, it is emphasized that the questionnaires should be adapted to the cultural conditions of the regions.

In general, HDI at the provincial and national levels must be considered one of the most important trends in reducing violence. According to a review study in Europe, HDI not only prevents violence against women independently but also becomes a social context for the formation of other preventive factors against violence.[49]

Income and Economy

Strauss has shown that violence is up to 1.5 times higher in low-income families, especially when men have all-economic control.[50, 51] In our study, the prevalence of violence in families with low income was observed by 13% more than high-income families. Iranian society has faced many economic problems in recent years. According to World Bank statistics, inflation in Iran increased from 0.4% in 2015 to 36.9% in 2019, while the GDP per capita decreased from 7,927 US $ in 2012 to 5,550 US $ in 2019.[52, 53] Adverse economic conditions caused unemployment, inflation, and reduced household income in recent years. Frustration and failure due to the inability of partners to meet the current costs of the household are one of the most important causes of intimate partner violence. It is recommended that the exact causes and factors that affect this important problem and the best pathways for IPV prevention and women's health promotion in future research should be investigated.

Education and Occupation

In our analysis, higher education and employment for women were among the factors which reduce violence. Many studies have acknowledged the reduced effect of higher education on violence.[54, 55] Educated women are more likely to be employed in secure, higher-paying jobs, so they do not have to endure violent relationships due to economic dependence. It is known that women who have "even 1 person to talk to" are said to be less likely abused.[56] Higher education, in addition to the economic effects, may play an active role in reducing violence by providing a supportive social environment for women.[57]

Mean Age

In the regression analysis, a significant positive correlation was observed between mental violence and mean age. Subgroup analysis also showed that the prevalence of this type of violence in women with an average age above 35 years was 56.5%, which is higher than the overall rate (30.8%). This may be due to the generational gap. Globalization as a social phenomenon through broad interactions can pave the way for changing people's attitudes toward violence. The pervasiveness of the Internet and the mass media has made a rapid change in people's attitudes by making a variety of content available.[4] Young people are more exposed to globalization than previous generations; therefore, it is plausible that they have a better situation in face of spousal violence.

Children

Based on the subgroup analysis, the prevalence of total violence in childless families was below average. The lower prevalence of violence in these relationships is due to the factors that have not been addressed in studies, including the fact that it is expected that childless couples have a lower average age and duration of marriage and still have not faced the burden of family management responsibilities.

In some of the studies, such as that of Moazen et al., the prevalence of violence increased with the number of children, which is evident frequently in the literature.[38, 58] This can be due to the effect of the magnitude of the family population on its economic burden. Therefore, it can be concluded that economic growth along with family size regulation can be effective in reducing violence.

Conclusion

IPV research confirms that violence against women remains a widespread public health problem. Reports of high prevalence rates suggest that sensitization to this problem should be incorporated not only in medical training but also in governmental and legal organizations. Difficulty in comparison between studies

was because of inconsistent methodological approaches found in studies, which suggest the importance of the use of clearer definitions and measurement tools, to allow finding accurate comparisons between different cultural groups and benefit the research. The results of our study provide some valuable information that can be used to inform the development of healthcare interventions and policy. We suggest that future investigations must focus on recognizing what is the best healthcare response to domestic violence.

Limitations

We tried to follow the protocols; however, there were limitations. The use of different concepts for violence and different questionnaires in the included studies caused data heterogeneity. Even in articles with the same methodology and questionnaire, differences in field, interviewer selection, and training may exist that cannot be easily assessed. Despite the large and compelling sample size, research is not necessarily generalizable to the larger community. Therefore, the prevalence and the relationship between the factors should be interpreted with caution.

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Author's Contribution

A.A and A.S designed and directed the project. M.V and F.R performed the statistics, and designed the tables and figures and supervised the result section.

Appendix

We prepare data, PRISMA checklists, and search syntax in separate files. We have registered this study as part of a more comprehensive project with ethical approval code of IR.SUMS.MED.REC.1400.560.

Conflict of Interest: None declared.

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