

Prevalence and Risk Factors of Intimate Partner Violence Among Pregnant Women: A Population-Based Study From Finland 2000–2020

Violence Against Women

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Abstract

To our knowledge, this is the first population-based study on violence experience during pregnancy based on International Classification of Diseases (ICD)-10 classification. This study examined violence before, during, and after childbirth in Finland focusing on prevalence and risk factors. Based on the National Register Data from 2000 to 2020, 0.3% (3,485 of 1,177,569) of pregnant women were identified as having experienced violence. Violence was more common among vulnerable groups, such as

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young women and those with low socioeconomic status. The discrepancy between previous survey-based evidence and our ICD-based data on violence prevalence highlights the need for improved identification within healthcare.

Keywords

intimate partner violence, violence, pregnancy, register data, real-world data, ICD-10

Introduction

According to the World Health Organization (WHO), violence is a significant societal, social, and health problem that burdens healthcare systems and often remains hidden. Violence in close relationships is referred to as either domestic violence or intimate partner violence (IPV). The WHO defines IPV as the intentional use or threat of power, control, or physical force against another person, leading to physical or mental harm, impaired development, or death. IPV encompasses physical, psychological, sexual, economic, digital, and cultural forms of violence (WHO, n.d.). One in three women worldwide have experienced physical or sexual violence by an intimate partner or sexual violence from a non-partner during their lifetime, as reported by a recent systematic review and meta-analysis (Román-Gálvez et al., 2021).

Pregnancy is recognized as a potential risk period for intimate partner violence, as it may trigger the onset or escalation of violence within the family (Coutinho et al., 2015; O'Doherty et al., 2015). Previously cited systematic review and meta-analysis by Román-Gálvez et al. indicated that 25% of pregnant women have experienced some form of violence. Based on the available data, the estimated prevalence of physical violence during pregnancy was 9.2%, psychological violence was 18.7%, and sexual violence was 5.5% (Román-Gálvez et al., 2021). Another systematic review and meta-analysis found that physical violence is more prevalent during the perinatal period, while psychological violence is most common throughout life (White et al., 2024). Experiences of violence are recurrent, and women who have experienced violence before pregnancy are more likely to experience it during and after pregnancy as well (Finnbogadóttir et al., 2014; White et al., 2024).

Based on a recent scoping review, several sociodemographic risk factors for IPV during the perinatal period have been identified in the Nordic countries (Finnbogadóttir et al., 2024). Younger age and low educational level were identified as significant risk factors for IPV. Being unemployed or facing financial distress also increases the risk of experiencing IPV. Women who are single or not cohabiting with a partner were more likely to be exposed to violence. Importantly, although overall IPV prevalence is relatively high in the Nordic countries, the review found that women who live in the Nordic countries but were born outside the Nordic region experience higher levels of violence compared with Nordic-born women. A history of miscarriages, abortions, or unplanned pregnancies were additional risk factors during the

perinatal period. Lifestyle factors such as smoking, alcohol consumption, and illicit drug use during pregnancy were also linked to an increased risk of IPV. Furthermore, having a pre-pregnancy body mass index (BMI) of 30 kg/m² or higher was associated with a higher likelihood of experiencing violence during pregnancy (Finnbogadóttir et al., 2024).

Although the Nordic countries are ranked among the most equal countries in the world, they have the highest prevalence of IPV in the European Union (EU) (Wemrell et al., 2019). In Nordic countries, gender equality means that people of all genders have equal rights, responsibilities, and opportunities in all areas of life. This paradox highlights that even in societies where everyone is guaranteed equal possibilities and rights regardless of gender, intimate partner violence can remain a significant problem. According to the European Union gender-based violence survey, 52% of women in Denmark, 47% in Finland and 46% in Sweden reported experiencing physical and/or sexual violence during their lifetime (FRA, EIGE & Eurostat, 2024). During pregnancy, the prevalence of IPV varied from 8.5% in Denmark (Andreasen et al., 2023) to 5% in Norway (Sørbø et al., 2013), 3.3% (prenatally and during pregnancy) in Iceland (Lukasse et al., 2014), and 2.5% in Sweden (Finnbogadóttir & Dykes, 2016).

To the best of our knowledge, and as supported by a recent review article, the exposure of pregnant women to IPV during pregnancy has not been systematically investigated applying scientific methods in Finland (Finnbogadóttir et al., 2024). The aim of this study was to investigate the prevalence and risk factors for exposure to violence during the period of 2 months preceding pregnancy, during pregnancy, and the 2 months following childbirth based on real-world evidence gathered from population based national registers covering the period from 2000 to 2020. The main outcome of the study was having a diagnosis indicating exposure to violence, based on the International Classification of Diseases, 10th Revision (ICD-10) criteria. It is also important to form a comprehensive picture of violence during pregnancy in Finland.

Methodology

Data Collection

The data for this study were collected from the Finnish Medical Birth Register (MBR), established in 1987 and maintained by the Institute for Health and Welfare (The Finnish Institute for Health and Welfare (THL), n.d.). The MBR collects extensive data to support safety and quality of maternity and neonatal care with improved and highly reliable data quality due to reforms in 1990, 1996, 2004, and 2017. The register includes information on all live births and stillbirths (birthweight \geq 500 g or gestational age \geq 22 weeks), demographics and personal data of pregnant women, details on current and previous pregnancies, and infant data such as birthweight, health status, and interventions during the first week. Data are collected prospectively from hospitals, verified for accuracy, and discrepancies are corrected, ensuring the register is a robust source for research and healthcare planning.

Table 1. International Statistical Classification of Diseases and Related Health Problem, Tenth Revision (ICD-10) Codes Used to Identify Violence.

ICD-10 Code	Description
Main Diagnosis	
T74	Maltreatment Syndromes
T74.1	Physical Abuse
T74.2	Sexual Abuse
T74.3	Psychological Abuse
T74.8	Other Maltreatment Syndromes
T74.9	Maltreatment Syndrome, Unspecified
Additional Code	
X85-Y09	Assault
Y10-Y34	Unspecified Event, Undetermined Intent
Y87.1	Sequelae of Intentional Self-harm, Assault and Events of Undetermined Intent

The data gathered from the MBR were supplemented with information on socioeconomic status (SES) from Statistics Finland (Statistics Finland, n.d.) and the ICD-10 criteria ICD-10 diagnoses of violence during the 2 months before pregnancy, throughout pregnancy, and the 2 months after childbirth from the Hospital Discharge Register (HDR) kept by (THL). Encrypted personal identification numbers, unique for each parturient, were used to link the different data sources.

Population

Study population included information on all 1,177,569 births occurred in Finland in 2000–2020.

Variables

Cases of violence during pregnancy were identified using the main ICD-10 classification diagnoses T74.0-T74.3, T74.8, and T74.9, along with additional codes X85-Y09, Y10-34, and Y87.1 (Table 1), from the MBR and the Hospital Discharge Register. For this study, all ICD-10 diagnoses were pooled and recoded as “yes” if any of the ICD-10 diagnoses were reported, and “no” if none were reported, during the 2 months before pregnancy, throughout pregnancy, and the 2 months after childbirth. ICD-10 codes were used throughout the study period, and no revisions to the coding system were implemented. Prevalences of violence were determined separately for the periods of 2 months before pregnancy, during the first, second, and third trimesters of pregnancy, and 2 months after birth. Additionally, the prevalence of violence was analyzed for the entire study period and separately for four-time intervals: 2000–2005, 2006–2010, 2011–2015, and 2016–2020.

Other variables used in the statistical analyses as covariates were maternal age in years at birth categorized as ≤ 19 , 20–29, 30–39 (reference group), and ≥ 40 years, parity

categorized as nulliparous (no previous births) and multiparous (≥ 1 previous births, reference group), and number of fetuses categorized as one (reference group) or two or more.

Data on the SES reflect a person's position in society, assessed through education, occupation, or employment. For this study, SES was categorized as follows: self-employed (reference group), upper-level employees, lower-level employees, manual workers, students, pensioners (women who are unable to work due to long-term illness or disability), long-term unemployed, others, and unknown. The "others" category included mothers whose occupations could not be classified or mothers who had never worked.

Self-employed persons are those who were engaged in economic activities on their own account and at their own risk. They could be self-employed with employees or without employees, such as own-account workers or freelancers. Upper-level employees work in various expert and managerial roles and typically have university degrees. Lower-level employees generally do not have university degrees and work in office, sales, or healthcare roles. Long-term unemployed referred to women who have been unemployed for at least 6 months, while those unemployed for less than 6 months are classified according to their previous occupation. Women with missing data were classified separately under the category missing.

Marital status was categorized as unmarried (reference group), married, divorced, widowed, and missing information. Gestational diabetes (GDM) was categorized as yes or no (reference group), and in vitro fertilization (IVF) was categorized as yes or no (reference group). Tobacco smoking was categorized as yes or no, and women with missing information were classified under the missing category. Data on tobacco smoking habits were collected during maternity care visits, which are offered free of charge to all pregnant women.

Statistical Analyses

Descriptive analyses to study association between the outcome (violence) and confounding variables (defined above) were reported in numbers and percentages. To examine whether the prevalence of violence, defined based on ICD-10 diagnoses as defined above, changed significantly over time, we conducted a chi-square test of independence. A P -value of $<.05$ was considered indicative of statistical significance.

Multivariable analyses to study effect of confounding variables on the outcome (violence) were performed using logistic regression analysis with the backward selection method. Both crude and adjusted odds ratios (aOR) with 95% confidence intervals (CIs) were determined. Covariates included in the analyses were maternal age, parity, SES, marital status, tobacco smoking, number of fetuses, GDM, and IVF. All analyses were performed using IBM SPSS Statistics 27.

Ethical Issues

In Finland, the secondary use of health data is regulated by Act on the Secondary Use of Health and Social Data (Findata, Social and Health Data Permit Authority, 2023).

Data access was granted based on the study plan approved by Statistics Finland and the Finnish Institute of Health and Welfare in 2021 (TK/1137/07.03.00/2021, THL/4455/14.02.00/2020). Data were analyzed in a secure environment Kapseli maintained by Statistics Finland. Since the study subjects were not contacted, ethical committee statement was not required for register-based studies in Finland.

Results

The study population included all 1,177,569 births in Finland from 2000 to 2020. Violence was observed in 0.29% ($n = 3,485$) of the pregnancies over the entire study period, with an increasing trend: 0.13% (456 of 340,521) in 2000–2005, 0.22% (653 of 299,947) in 2006–2010, 0.35% (1,026 of 292,203) in 2011–2015, and 0.55% (1,350 of 244,898) in 2016–2020 ($P < .001$) (Table 2). Of these women, 9.2% (321 of 3,485) had experienced violence also in their previous pregnancies.

IPV in relation to pregnancy and childbirth across the entire period was reported as follows: IPV prevalence was recorded as 1,267 cases (0.1%) up to 2 months before pregnancy. During pregnancy, prevalence was recorded as 275 cases (0.02%) in the first trimester, 352 cases (0.03%) in the second trimester, and 278 cases (0.02%) in the third trimester. After childbirth, IPV prevalence was recorded as 1,313 cases (0.11%) within 2 months postpartum (Table 2).

The distribution of maternal demographics, tobacco smoking during pregnancy, and obstetric risk factors are reported in Table 3. Maternal age ≤ 19 years was associated with a 2.8-fold increase (aOR 2.83, 95% CI 2.47–3.24) and age 20–29 years with a 1.4-fold increase (aOR 1.38, 95% CI 1.28–1.50) in the prevalence of violence compared to age 30–39 years. Nulliparous women had a 1.1-fold increase (aOR 1.12, 95% CI 1.04–1.21) in the prevalence of violence compared to parous women.

Upper-level employees had the lowest prevalence of violence throughout the study period. In contrast, women on long-term illness or disability pension had a 9.8-fold increase (aOR 9.80, 95% CI 8.19–11.73), the long-term unemployed had a 2.8-fold increase (aOR 2.75, 95% CI 2.35–3.21), students had a 2.3-fold increase (aOR 2.34, 95% CI 2.07–2.64), and those with unclassified or unknown information on SES had up to a 7.6-fold increase (aOR 7.56, 95% CI 3.07–18.62) in the prevalence of violence compared to lower-level employees, as reported in Table 3.

The prevalence of violence in married women was 1.4-fold (aOR 1.42, 95% CI 1.31–1.53) compared to unmarried women, who had the lowest prevalence of violence. In divorced women, the prevalence of violence was 2.7-fold (aOR 2.65, 95% CI 2.21–3.18), and in widows, it was 3.8-fold (aOR 3.82, 95% CI 2.02–7.17) compared to unmarried women. Tobacco smoking was associated with a 2.4-fold increase (aOR 2.37, 95% CI 2.20–2.56) in the prevalence of violence compared to non-smoking. Having GDM was associated with a 1.3-fold increase in the prevalence of violence (aOR 1.34, 95% CI 1.22–1.48) compared to women without GDM.

Table 2. Prevalence of Births ($N = 1,177,569$) With Diagnosis of Violence During the 2 Months Before Pregnancy, Throughout Pregnancy, and the 2 Months After Childbirth in Finland in 2000–2020.

Time Period	2000–2005	2006–2010	2011–2015	2016–2020	2000–2020
Births	$n = 340,521$	$n = 299,947$	$n = 292,203$	$n = 244,898$	$N = 1,177,569$
Violence up to 2 months before pregnancy, n (%)	157 (0.05)	218 (0.07)	375 (0.13)	517 (0.21)	1267 (0.10)
Violence in the first trimester, n (%)	37 (0.01)	54 (0.02)	79 (0.03)	105 (0.04)	275 (0.02)
Violence in the second trimester, n (%)	39 (0.01)	77 (0.03)	104 (0.03)	132 (0.05)	352 (0.03)
Violence in the third trimester, n (%)	37 (0.01)	57 (0.02)	88 (0.02)	96 (0.04)	278 (0.02)
Violence up to 2 months after pregnancy, n (%)	186 (0.05)	247 (0.08)	380 (0.13)	500 (0.20)	1,313 (0.11)
Total with violence, n (%)	456 (0.13)	653 (0.22)	1,026 (0.35)	1,350 (0.55)	3,485 (0.30)

Table 3. Risk Factors for Violence During the 2 Months Before Pregnancy, Throughout Pregnancy, and the 2 Months After Childbirth in Finland in 2000–2020.

Maternal Demographics and Characteristics	Violence <i>n</i> (%)	No Violence <i>n</i>	Crude Odds Ratio (cOR), (95% CI)	Adjusted Odds Ratio (aOR), (95% CI)
Maternal age, years				
≤19	382 (1.4)	26,026	7.61 (6.77–8.56)	2.83 (2.47–3.24)
20–29	1,920 (0.4)	537,770	1.85 (1.72–2.00)	1.38 (1.28–1.50)
30–39	1,090 (0.2)	565,468	Ref.	Ref.
≥40	93 (0.2)	44,820	1.08 (0.87–1.33)	0.95 (0.77–1.18)
Nulliparous	1,795 (0.4)	488,584	1.49 (1.40–1.59)	1.12 (1.04–1.21)
Multiparous	1,690 (0.2)	685,500	Ref.	Ref.
Socioeconomic status				
Lower-level employees	592 (0.2)	336,858	Ref.	Ref.
Upper-level employees	191 (0.1)	180,196	0.60 (0.51–0.71)	0.77 (0.66–0.91)
Self-employed	73 (0.2)	47,594	0.87 (0.68–1.11)	0.94 (0.73–1.20)
Manual workers	505 (0.3)	173,299	1.66 (1.47–1.87)	1.32 (1.17–1.49)
Students	493 (0.6)	88,430	3.17 (2.81–3.58)	2.34 (2.07–2.64)
Pensioners ¹	158 (2.4)	6,481	13.87 (11.62–16.56)	9.80 (8.19–11.73)
Long-term unemployed	226 (0.6)	37,020	3.47 (2.98–4.05)	2.75 (2.35–3.21)
Not classified	5 (2.9)	165	17.24 (7.06–42.13)	7.56 (3.07–18.62)
Unknown	612 (0.9)	69,874	4.98 (4.45–5.58)	3.27 (2.91–3.68)
Missing information	630 (0.3)	234,167	1.53 (1.37–1.71)	1.44 (1.29–1.62)
Marital status				
Unmarried	1,294 (0.2)	674,115	Ref.	Ref.
Married	1,993 (0.4)	467,946	2.22 (2.07–2.38)	1.42 (1.31–1.53)
Divorced	135 (0.8)	17,795	3.95 (3.31–4.72)	2.65 (2.21–3.18)
Widow	10 (1.2)	848	6.14 (3.29–11.49)	3.82 (2.02–7.17)
Missing information	53 (0.4)	13,380	2.06 (1.57–2.72)	1.43 (1.08–1.89)
Smoking status				
Non-smoking	1,986 (0.2)	971,444	Ref.	Ref.
Smoking	1,329 (0.8)	165,331	3.93 (3.67–4.22)	2.37 (2.20–2.56)
Missing information	170 (0.5)	37,309	2.23 (1.91–2.61)	2.01 (1.71–2.35)
Number of fetuses				
1	3,388 (0.3)	1,140,331	Ref.	
2 or more	97 (0.3)	33,753	0.97 (0.79–1.18)	
GDM				
No	3,015 (0.3)	1,047,022	Ref.	Ref.
Yes	470 (0.4)	127,062	1.29 (1.17–1.42)	1.34 (1.22–1.48)
IVF				
No	3,472 (0.3)	1,166,099	Ref.	
Yes	13 (0.2)	7,985	0.55 (0.32–0.94)	

cOR = crude odds ratio, aOR = adjusted odds ratio, CI = confidence interval, Ref. = reference group, GDM = gestational diabetes, IVF = in vitro fertilization.

¹Pensioner = women who are unable to work due to long-term illness or disability.

Discussion

In Finland, ICD-10 diagnoses indicating exposure to violence were recorded for 0.3% of pregnant women before, during and after pregnancy between 2000 and 2020. The prevalence increased from 0.13% in 2000–2005 to 0.55% in 2016–2020 ($P < .001$). To our knowledge, this is the first population-based study to examine violence during pregnancy using ICD-10 diagnoses. Our findings show a clear discrepancy between ICD-coded data and previous survey-based evidence from Finland (Siltala et al., 2023). Their study found that about half of Finnish women have experienced violence during their lifetime, highlighting the seriousness of the issue. While their focus was on lifetime exposure, our study examined violence during pregnancy, a known high-risk period for IPV. The low prevalence in our data likely reflects underreporting rather than a true reduced risk (WHO, 2011). In different countries and cultures, also over time, women can experience and report IPV differently.

Compared to other previous studies from the Nordic countries, the reported prevalence of violence during the 2 months preceding pregnancy, during pregnancy, and the 2 months following childbirth appears remarkably low. In these countries, the prevalence of IPV during pregnancy ranged from approximately 2.5% to 8.5%, with all studies relying on anonymous questionnaire-based data collection (Andreasen et al., 2023; Finnbogadóttir & Dykes, 2016; Lukasse et al., 2014; Sørbo et al., 2013).

Overall, it seems plausible that violence is more readily disclosed in survey settings than in direct communication with healthcare professionals (Keynejad et al., 2021). It has also been suggested that healthcare personnel may hesitate to inquire about violence, even when it appears likely based on observed injuries (Keynejad et al., 2021; Olive, 2017), particularly as clinical focus often remains on treating physical symptoms, while organizational support, clear protocols, and comprehensive understanding of the complex nature of violence may be lacking (Siltala et al., 2023). It is credible that ICD-10 codes within the healthcare system are applied using stricter criteria, prioritizing the most severe and physically evident cases, in contrast to self-reported data from surveys. Even when violence is recognized by healthcare professionals, an ICD diagnosis code may not be assigned, as violence is considered a criminal matter and may be perceived by staff as beyond their professional responsibilities. Furthermore, our data only include hospital settings, excluding cases treated in primary care. It is also important to consider that individuals' previous experiences with different forms of violence—physical, emotional, or sexual—can influence how they define and identify violence (Gilgun, 2008).

Our results show that pregnant women in certain vulnerable positions, such as students, the long-term unemployed, women on long-term illness or disability pension, those with missing socioeconomic information, as well as young women (<30 years) had more diagnoses indicating violence than women over 30 years of age, lower or upper-level employees, or self-employed pregnant women. These findings are consistent with several previous studies conducted in the Nordic countries, where all residents have universal access to health care services (Finnbogadóttir et al., 2024;

Siltala et al., 2023). It could be speculated that violence has been monitored more closely in these groups than among upper-level employees with the highest SES. Furthermore, when pregnant women face coping challenges or are already social work clients, it may be that exposure to violence has been screened more thoroughly and therefore, identified more often than in non-vulnerable pregnant women. However, previous studies have reported that violence occurs in all social classes (Keynejad et al., 2021).

Based on a Cochrane review, there is evidence that screening for violence in health-care settings doubles the number of women identified as experiencing abuse (O'Doherty et al., 2015). There is also evidence that improving the healthcare response to intimate partner violence requires a more comprehensive understanding of its complex effects on patients. The development of organizational-level practices, such as clear and consistent protocols, interprofessional collaboration, and systematic training, has been highlighted as essential interventions. Furthermore, creating a supportive and safe environment for disclosure, where patients are met with empathy and respect, may enhance trust and facilitate earlier identification and intervention (Husso et al., 2012; O'Doherty et al., 2015; Virkki, 2015; Virkki et al., 2015).

Strengths and Limitations

The main strength of the present study lies in the use of real-world data, covering all pregnancies ending into a birth in Finland from 2000 to 2020, and the ability to link information from several high-quality, population-based registers (Sund, 2012). To the best of our knowledge, these findings are novel, as population-based data on violence prevalence documented using ICD-10 codes have not been previously reported. Additionally, in Finland data on follow-ups during pregnancy and childbirth are collected prospectively in the MBR enhancing the validity of the data.

We have identified some limitations related to the present data that are likely to affect reported prevalence of violence. There are shortcomings in the diagnosis and reporting of cases of violence in healthcare in Finland. In particular, the use of additional codes is still low. A case of violence may have been registered with a diagnosis other than the violence codes (Kivelä, 2020). Further, we do not have accurate information about whether violence was related to intimate relationships. However, it is extremely rare in Finland for a pregnant woman to be subjected to violence without knowing the perpetrator. In Finland, the perpetrator of violence against women is usually a spouse or ex-spouse (Siltala et al., 2023). Furthermore, while register-based data are prone to errors and missing values, the proportion of missing values in this study was very low, less than 1% of the covariates.

Conclusions


IPV is a significant public health issue that affects women across all social and demographic groups, including those in gender-equal societies. In our nationwide cohort,


which included all births in Finland from 2000 to 2020, 0.3% of women were identified as having experienced IPV during pregnancy based on healthcare records. However, this proportion is considerably lower than the lifetime prevalence of IPV, estimated at approximately 50% in a recent survey (Siltala et al., 2023), and likely reflects under-reporting and limited detection in clinical settings. Experiences and reporting of IPV can vary across countries, cultures, and over time.


In our data, the prevalence of IPV increased markedly over the two decades studied. The prevalence rose from 0.13% in 2000–2005 to 0.55% in 2016–2020, representing more than a four-fold increase, relative risk, RR 4.12, 95% CI 3.70–4.58 (data not shown). This substantial rise highlights a growing need for improved identification, documentation, and support for women experiencing IPV during pregnancy.

Importantly, our findings indicate that pregnancy does not protect against IPV; violence can occur before, during, and after pregnancy. Known risk factors for IPV include young maternal age, low SES, nulliparity, tobacco use, and gestational diabetes. Although IPV during pregnancy appears less frequently in clinical data, global evidence shows that pregnancy and the postpartum period are high-risk times for IPV onset and escalation (WHO, 2011). Systematic screening and improved professional awareness are essential to enhance identification and support. Strengthening healthcare responses to IPV during pregnancy is critical for safeguarding maternal and child health.

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References

Andreasen, K., Zapata-Calvente, A. L., Martín-de-las-Heras, S., Bueno-Cavanillas, A., Schei, B., Dokkedahl, S., De León, S., Fernandez Lopez, R., Oviedo-Gutiérrez, A., Ankerstjerne, L. B. S., Megías, J. L., Khan, K. S., Rasch, V., & Linde, D. S. (2023). Video consultations and safety app targeting pregnant women exposed to intimate partner violence in Denmark and Spain: Nested cohort intervention study (STOP study). *JMIR Formative Research*, 7, e38563. <https://doi.org/10.2196/38563>

- Coutinho, E., Almeida, F., Duarte, J., Chaves, C., Nelas, P., & Amaral, O. (2015). Factors related to domestic violence in pregnant women. *Procedia—Social and Behavioral Sciences*, *171*, 1280–1287. <https://doi.org/10.1016/j.sbspro.2015.01.242>
- Findata, Social and Health Data Permit Authority. (2023). <https://findata.fi/en/services-and-instructions/legislation/>.
- Finnbogadóttir, H., & Dykes, A.-K. (2016). Increasing prevalence and incidence of domestic violence during the pregnancy and one and a half year postpartum, as well as risk factors: A longitudinal cohort study in Southern Sweden. *BMC Pregnancy and Childbirth*, *16*(1), 327. <https://doi.org/10.1186/s12884-016-1122-6>
- Finnbogadóttir, H., Dykes, A.-K., & Wann-Hansson, C. (2014). Prevalence of domestic violence during pregnancy and related risk factors: A cross-sectional study in southern Sweden. *BMC Women's Health*, *14*(1), 63. <https://doi.org/10.1186/1472-6874-14-63>
- Finnbogadóttir, H. R., Henriksen, L., Hegaard, H. K., Halldórsdóttir, S., Paavilainen, E., Lukasse, M., & Broberg, L. (2024). The consequences of a history of violence on women's pregnancy and childbirth in the Nordic countries: A scoping review. *Trauma, Violence, & Abuse*, *25*(5), 3555–3570. <https://doi.org/10.1177/15248380241253044>
- FRA, EIGE, & Eurostat. (2024). *EU gender-based violence survey – Key results: Experiences of women in the EU-27EU Member States*. Publications Office. <https://data.europa.eu/doi/10.2811/6270086>.
- Gilgun, J. F. (2008). Lived experience, reflexivity, and research on perpetrators of interpersonal violence. *Qualitative Social Work*, *7*(2), 181–197. <https://doi.org/10.1177/1473325008089629>
- Husso, M., Virkki, T., Notko, M., Holma, J., Laitila, A., & Mäntysaari, M. (2012). Making sense of domestic violence intervention in professional health care. *Health & Social Care in the Community*, *20*(4), 347–355. <https://doi.org/10.1111/j.1365-2524.2011.01034.x>
- Keynejad, R., Baker, N., Lindenberg, U., Pitt, K., Boyle, A., & Hawcroft, C. (2021). Identifying and responding to domestic violence and abuse in healthcare settings. *BMJ*, *373*, n1047. <https://doi.org/10.1136/bmj.n1047>
- Kivelä, S. (2020). *The Documentation of Family Violence in Healthcare and the Associations of Violence on Well-Being* [Doctoral dissertation]. Tampere University]. <https://trepo.tuni.fi/handle/10024/118932>
- Lukasse, M., Schroll, A., Ryding, E. L., Campbell, J., Karro, H., Kristjansdóttir, H., Laanpere, M., Steingrimsdóttir, T., Tabor, A., Temmerman, M., Van Parys, A., Wangel, A., & Schei, B. (2014). Prevalence of emotional, physical and sexual abuse among pregnant women in six European countries. *Acta Obstetrica et Gynecologica Scandinavica*, *93*(7), 669–677. <https://doi.org/10.1111/aogs.12392>
- O'Doherty, L., Hegarty, K., Ramsay, J., Davidson, L. L., Feder, G., & Taft, A. (2015). Screening women for intimate partner violence in healthcare settings. *Cochrane Database of Systematic Reviews*, *2015*(8), 1–83. <https://doi.org/10.1002/14651858.CD007007.pub3>
- Olive, P. (2017). Classificatory multiplicity: Intimate partner violence diagnosis in emergency department consultations. *Journal of Clinical Nursing*, *26*(15–16), 2229–2243. <https://doi.org/10.1111/jocn.13673>
- Román-Gálvez, R. M., Martín-Peláez, S., Fernández-Félix, B. M., Zamora, J., Khan, K. S., & Bueno-Cavanillas, A. (2021). Worldwide prevalence of intimate partner violence in

- pregnancy. A systematic review and meta-analysis. *Frontiers in Public Health*, 9, Article 738459, 1–8. <https://doi.org/10.3389/fpubh.2021.738459>.
- Siltala, H., Hisasue, T., Hietamäki, J., Saari, J., Laajasalo, T., October, M., Laitinen, H.-L., & Raitanen, J. (2023). Domestic violence-related use of services and the resulting costs in health, social and legal services. *Publications of the Government's Analysis, Assessment and Research Activities*, 2023:4, 14–92. Prime Minister's Office. <http://urn.fi/URN:ISBN:978-952-383-317-3>.
- Sorbø, M. F., Grimstad, H., Bjørngaard, J. H., Schei, B., & Lukasse, M. (2013). Prevalence of sexual, physical and emotional abuse in the Norwegian mother and child cohort study. *BMC Public Health*, 13, 186. <https://doi.org/10.1186/1471-2458-13-186>
- Virkki, T. (2015). Social and health care professionals' views on responsible agency in the process of ending intimate partner violence. *Violence Against Women*, 21(6), 712–733. <https://doi.org/10.1177/1077801215577213>
- Virkki, T., Husso, M., Notko, M., Holma, J., Laitila, A., & Mäntysaari, M. (2015). Possibilities for intervention in domestic violence: Frame analysis of health care professionals' attitudes. *Journal of Social Service Research*, 41(1), 6–24. <https://doi.org/10.1080/01488376.2014.917449>
- Wemrell, M., Stjernlöf, S., Aenishänslin, J., Lila, M., Gracia, E., & Ivert, A. (2019). Towards understanding the Nordic paradox: A review of qualitative interview studies on intimate partner violence against women (IPVAW) in Sweden. *Sociology Compass*, 13, e12699. <https://doi.org/10.1111/soc4.12699>
- White, S. J., Sin, J., Sweeney, A., Salisbury, T., Wahlich, C., Montesinos Guevara, C. M., Gillard, S., Brett, E., Allwright, L., Iqbal, N., Khan, A., Perot, C., Marks, J., & Mantovani, N. (2024). Global prevalence and mental health outcomes of intimate partner violence among women: A systematic review and meta-analysis. *Trauma, Violence, & Abuse*, 25(1), 494–511. <https://doi.org/10.1177/15248380231155529>
- World Health Organization. (2011). *Violence against women: Intimate partner and sexual violence against women*. World Health Organization. https://iris.who.int/bitstream/handle/10665/70764/WHO_RHR_11.35_eng.pdf.
- World Health Organization WHO. (n.d.). *Intimate partner violence*. World Health Organization. <https://apps.who.int/violence-info/intimate-partner-violence/>.

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