



Gender-based violence

Violencia de género

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INTRODUCTION

Defining health as a complete physical, mental, and social well-being, and not just the absence of disease, it is understood that those factors that involve these areas are determinants of cardiovascular risk. For example, a recent meta-analysis and systematic review documented the impact of psychological factors (including post-traumatic stress and hostility) on the development of ischemic heart disease in women [hazard ratio (HR) 1.22; 95% CI 1.14-1.30].¹

Gender violence has various spectrums. Intimate partner violence has been associated with less healthy behaviors, higher inflammatory markers, increased cardiovascular disease (CVD), and long-term cardiovascular risk factors such as high blood pressure, diabetes, obesity, and dyslipidemia.^{2,3} In a meta-analysis⁴ with 640,376 women, sexual violence was associated with a high risk of CVD (HR 1.17; 95% CI 1.05-1.31), considering that the risk is maintained up to 14 years after the traumatic event. In addition, there is a strong association between the age at presentation of the trauma and cardiovascular risk, showing that a childhood with adversities has a greater possibility of CVD.

A multi-cohort study (53% women) documented that violence and harassment at work were associated with a 25% risk of CVD.⁵ In women, violence manifested by low socioeconomic status has been associated with a 34% risk for coronary heart disease, 23% for CVD, and 21% for cerebrovascular disease.⁶

Another form of violence is that associated with the medical invisibility of women in studies on cardiovascular diseases or Yentl syndrome. Although the impact on health due to this type of violence has not been widely documented, multiple studies certify that the female gender confers the risk of receiving less treatment or correct diagnosis.⁷

Prevalence

Globally, one in three women over the age of 15 has experienced physical or sexual violence at some time in her life, with the prevalence being higher in less developed countries (37% in women between 15 and 49 years of age). Around 81,000 women and girls were murdered in 2020, 58% at the hands of their partners or relatives. These numbers equate to one woman or girl being killed by persons they know every 11 minutes.⁸

In Latin America, the prevalence of physical or sexual violence against women is 29.8%, reaching the highest figure in Bolivia at 31%. In Brazil, Panama, and Uruguay, 1 out of 7 women suffer violence.⁹ In Mexico, 14% of women have been victims of physical violence, and 7 out of 100 have suffered sexual violence.¹⁰ Emotional violence was reported in 4 out of 10 women, and economic violence in 24.5%. This type of violence includes the prohibition of working or studying, the withdrawal of money or goods. As a result of the pandemic, crimes against women increased, especially family violence reaching 80.4% of cases, and sexual crimes to a lesser extent (17.7%).¹⁰

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In the workplace, 14.9% declared suffering one of these conditions: certificate of weightlessness to enter work, dismissal due to pregnancy, or reduction in salary. Labor discrimination has been reported in up to 20.6% manifested by lower salary, less opportunity for promotion or fewer benefits than male peers or a reduction in salary, dismissal, or non-hiring due to age or marital status.¹⁰

Most CVD clinical studies have an underrepresentation of women (38.2%), excluding ethnic, racial, or elderly minorities, mainly in heart failure and those using devices or procedures. The Americas region has a higher inclusion of women compared to other regions.¹¹

Although there is an increase in the presence of women in leadership positions, this is still lower compared to men. In cardiology, only 30% of women are leaders, predominantly non-experts in interventionism. This fact is explained by various sociocultural

factors of the female role and access to unequal gender academic conditions for their development.¹²

Physiopathology

Gender-based violence produces stress, depression, and anxiety, predisposing behavioral risk factors (drug use, poor diet, and sedentary lifestyle).⁷ Physiological mechanisms include abnormal inflammatory and neurohormonal processes, high blood pressure, glucose metabolism dysregulation, altered microvascular vasoconstrictor function, and sleep disorders. In addition, stress alters the limbic system: hypofunction of the medial prefrontal cortex (critical structure for executive function), activates the amygdala, and affects hippocampal neurons, resulting in inhibition of the parasympathetic system, activation of the sympathetic and altered baroreflex sensitivity. Consequently, there

Figure 1:

Pathophysiology of gender violence as a cardiovascular risk factor. Stress and adverse experiences predispose behavioral risk factors (obesity, drug use, poor diet, sedentary lifestyle). Also, they can act on the central nervous system, increasing heart rate and blood pressure and causing ventricular hypertrophy, glucose dysregulation, cytokine production, and endothelial dysfunction. All these increase cardiovascular risk. CVRFs = cardiovascular risk factors.

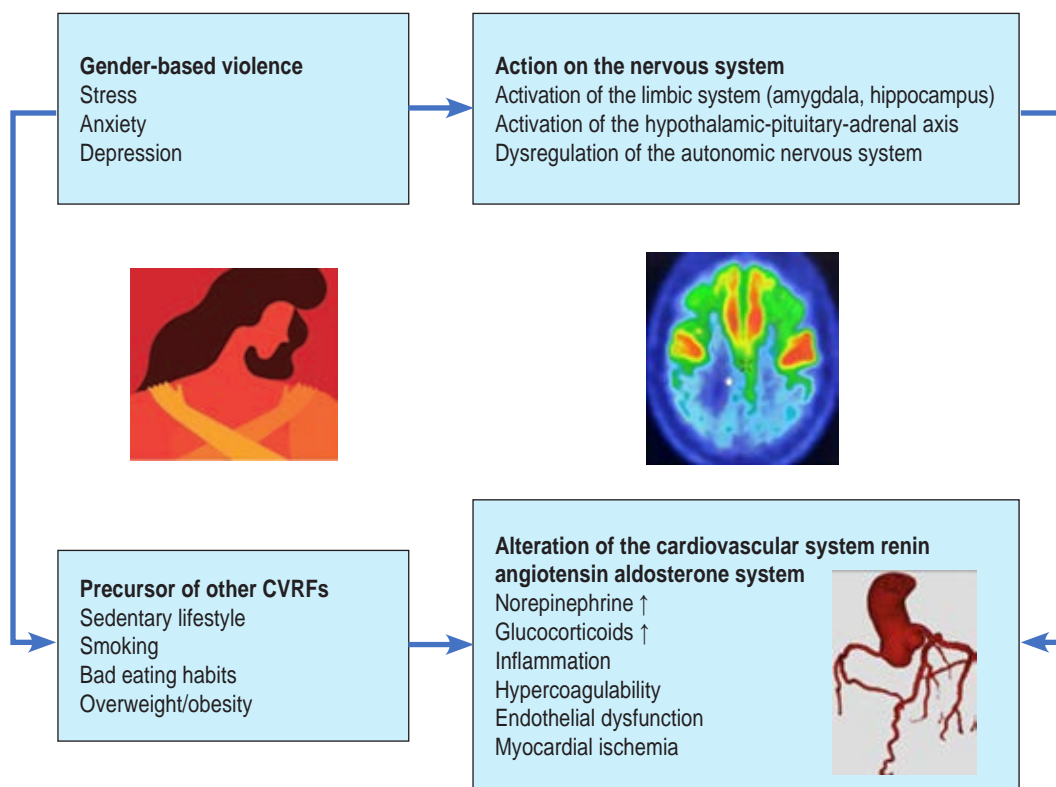


Table 1: Alerts that we must consider in gender violence.

Degree of alertness	Type of violence	Aggression mechanism	Effect
Watch out! Violence is present	Psychological	The threat to harm or take away children The threat of dismissal (labor, academic) The use of intimidating leering and gestures Blaming to provoke feelings of guilt, badness, or responsibility Control and stalk what you do, who you see, who you talk to, what you read and where you go Prevent you from making important decisions Deny the mistreatment or abuse that has existed Constraining social and familial contacts Use the visitation regime for bullying and harassment Forcing to withdraw complaints	Panic Unsafety Submission Distress Fear freezing Fear Intimidation impotence Feeling of inability Low self-esteem Humiliation Personal and social lack of protection Isolation Eliminate self- esteem Inability Undervaluation Effective ambivalence Emotional dependence Control Unsafety Lack of legal protection
Reaction to! Complain and ask for help	Economical Sexual	Deny information about familial income, blocking-access to them Sextortion Aggressive caresses, groping	Economic dependence Stress Anxiety Submission Guiltiness Panic Submission
Get away! Your life is in danger	Physical	Lockdown at home Screams, insults and permanent surveillance Destruction of personal belongings, mistreatment of pets or relatives Use of weapons to intimidate, death threat Hitting, shoving, rape	Isolation Lack of social protection Elimination of self-esteem Impotence Distress Anxiety Insecurity Terror Physical deterioration
Femicide			

is a release of cytokines and endothelial dysfunction.¹³ Underlying this, women have a biological predisposition to develop mental illnesses associated with hormonal

conditions, in addition to the role played by the sociocultural context of risk for violence (poverty, low educational level) (*Figure 1 and Tables 1 and 2*).

Prevention and care through public policies

The first regulations approved in Latin America were known as «First generation» laws. In 1994, the approval of the Convention of Belém do Pará, made up of 32 countries, and its subsequent ratification in 2016 marked a watershed in the designation of the duties of the State. Nine countries in the region have added social concepts such as economic and political violence, coining the term «Second generation» laws.¹⁴

Bolivia established the first Law, «Against harassment and political violence towards women», the first country in the region to address this issue. Mexico maintains awareness campaigns on equality between men and women through laws, including the Law to Prevent and Eliminate Discrimination. In 2021, the Regulations of the General Law on Women’s Access to a Life Free of Violence were published.¹⁵

With lines of action such as prevention, awareness, and implementation of sanctions against gender violence, it is necessary to contribute to the empowerment of women through public policies that reduce risk factors in the family, school, work, community, and institutional spheres.^{11,14-16}

- 1. Education: prevent school dropout in pregnant women. Granting of scholarships

and educational policies at all levels with a gender perspective.

- 2. Health: universal health coverage, quality medical care with a gender perspective.
- 3. Economic: equal salary, childcare for children of working mothers, economic support, and food subsidy for mothers in vulnerable conditions.
- 4. Social support: support networks and promotion of social resilience.
- 5. Environment: safe housing, access to essential services, recreation, and green areas.
- 6. Sexuality: family planning programs and preventing communicable diseases; promoting content and images free of violence and stereotypes, and avoiding gender discrimination.
- 7. Culture: avoid language barriers and racism, considering uses and customs.
- 8. Legal: advice and protection of the victim, maximum penalties for aggressors for physical violence and femicide.
- 9. Research: greater inclusion in clinical trials and leadership in science.

CONCLUSIONS

Gender violence is considered a cardiovascular risk factor. The conditions in women involve the biological, sociocultural, and economic spectrum, determining common pathophysiological mechanisms. On the

Table 2: Keys to identify violence.

If you feel that...	Reality is that...
It’s normal and it only happens to you	What you are going through happens to several women regardless of social, economic, cultural level or nationality
You must feel guilt or shame	You are not to blame; it is not in your hands to change the aggressor’s behavior
The situation of violence is temporary, and the situation will improve	The violence will increase. The aggressor does not keep promises or dialogue, he only manipulates and controls
It’s better to hold on for your kids	You must get out of this situation as soon as possible because your children are also victims
It is normal to think that only certain types of women suffer	Any woman can suffer from it, but more often, those who have a condition of emotional and socioeconomic vulnerability

other hand, more clinical trials on gender violence are necessary to define the impact on cardiovascular health and consider it within cardiovascular risk scales.

The joint work of all scientific, governmental, and private organizations with actions for preventing and eradicating violence in all its forms is essential.

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