The Economic Burden of Intimate Partner Violence in Ecuador: Setting the Agenda for Future Research and Violence Prevention Policies

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Introduction: Intimate partner violence (IPV) is a widespread social structural problem that affects a great proportion of Ecuadorian women. IPV is a sexually, psychologically, or physically coercive act against an adult or adolescent woman by a current or former intimate partner. Not-for-profit groups in Ecuador report that 70% of women experience 1 of the forms of IPV sometime during their lifetime, but population-based surveys suggest that 41% of Ecuadorian women are exposed to emotional violence, 31% physical violence, and 12% sexual violence by their spouse or partner over their lifetime. Despite the high prevalence, the response of the Ecuadorian government has been insufficient to reduce the number of victims and to provide adequate legal and health services for the prevention and treatment of IPV. Given the power of economic data to influence policy making, the goal of this study is to produce the first estimate of the economic impact of IPV in Ecuador and to identify the policy paths in which these estimates would have the greatest impact for Ecuador.

Methods: Using a bottom-up method for estimating the economic burden of IPV and a national prevalence of IPV based on a population-based survey in the 2003–2004 year, the total economic burden is estimated at approximately $109 million adjusted to the 2012 United States (U.S.) currency rate.

Results: Based on a prevalence of 255,267 women who were victims of IPV in the 2003–2004 year, the total economic burden is estimated at approximately $109 million adjusted to the 2012 the U.S. currency rate. The largest cost category contributing to the economic burden was the costs of healthcare services to treat injuries associated with IPV events.

Conclusion: The asymmetry between the economic burden of IPV and the amount of government resources devoted to IPV prevention efforts suggests the need for a greater role to be played by the government and other factors in society in the area of IPV prevention. [West J Emerg Med. 2013;14(4):347–353.]

INTRODUCTION

Intimate partner violence (IPV) is the most common type of violence experienced by women around the world. IPV is a sexually, psychologically, or physically coercive act against an adult or adolescent woman by a current or former intimate partner. Even after the combined efforts of the World Conference on Human Rights in Vienna (1993), the Inter-American Convention on the Prevention, Punishment and Eradication of Violence against Women of Belem do Para (1994), and the Fourth World Conference on Women (1995), IPV continues to be a widespread problem around the world. The landmark 10-country research study from the World Health Organization on Women’s Health and Domestic Violence confirms this premise by suggesting that 15% to 71% of ever-
partnered women experienced physical or sexual violence by an intimate partner in their lifetime, with estimates in most countries ranging between 29% and 62%. Furthermore, most acts of violence by an intimate partner reflect a pattern of continuing abuse, which puts women at higher risk for poor physical, mental, and reproductive health, and social functioning.

All forms of IPV can be devastating to a woman’s health, including increased long-term risk of chronic pain, physical disability, drug and alcohol abuse, and depression. Women with a history of IPV are also at increased risk for unintended pregnancy, sexually transmitted infections, and adverse pregnancy outcomes. A study conducted in the United States (U.S.), for example, found that the prevalence of women with gynecological problems among victims of spousal abuse was 3 times higher than for women with no spousal abuse. The psychological impacts of IPV can be equally grave. The most prevalent mental health consequences of IPV include depression, posttraumatic stress disorder (PTSD), and anxiety, and it is strongly associated with suicidal behavior, sleep and eating disorders, social dysfunction, and an increased likelihood of substance abuse. The most severe cases of IPV can lead to fatal outcomes. Femicide studies from Australia, Canada, Israel, South Africa, and the U.S. show that 40% to 70% of female murder victims were killed by their husbands or boyfriends.

The health impacts and loss of life caused by IPV injuries generate a significant economic burden for victims and society, including the direct costs of medical and non-medical services provided to women who are victims of violence, the indirect costs associated with lost workplace and household productivity, and the long-term impact on human pain and suffering. For example, a study conducted in the U.S. estimated the IPV economic burden for the U.S. in 2003 at $4.0 billion in medical costs and $1.8 billion in productivity losses, which represent approximately $6.2 billion and $2.8 billion in the 2012 U.S. currency rate, respectively. Another study conducted in Great Britain estimated the 2004 burden to be £23 billion, representing close to $36 billion in the 2012 U.S. currency rate. In addition to medical costs and productivity losses, Great Britain estimate includes costs from the criminal justice system, social services, housing, civil legal and emotional costs borne by the individual victim. In other studies translated to the 2012 U.S. currency rate, the economic burden of IPV has been assessed at $2 billion in Chile, $40 million in Nicaragua, $42 billion in Australia, $1 billion in New Zealand, $1.7 billion in Canada, and $384 million in Switzerland.

Estimates of the economic burden can raise national awareness about the prevalence of violence and the costs of treating IPV injuries and absorbing losses in productivity incurred by society. Furthermore, these estimates are critical to inform policy makers about the relative importance of IPV compared to other health issues and to inform decision-makers about allocating scarce public health resources for the prevention and treatment of IPV injuries.

Ecuador is 1 of the many countries that would benefit from an economic burden estimation of IPV. IPV is a widespread social structural problem that affects a great proportion of Ecuadorian women. Prevalence estimates of IPV generally defined, suggest that 7 out of every 10 Ecuadorian women have been victims of domestic violence at some point in their life. In 1994, IPV was recognized as a human rights violation and the Ecuadorian government began to assess annual rates of IPV prevalence through various governmental agencies. The Ministry of Health (MoH), for example, reported that 33 out of 100,000 people received treatment for an IPV injury in a public health clinic in 1994. Public health clinics are health community centers that provide primary healthcare services to the general population. By 2005, the MoH reported that the rate of treatment for IPV in the clinics increased to 54 out of 100,000. However, limitations of these data are that the MoH estimation does not differentiate between women, men, and children; and the IPV injuries may not be appropriately differentiated between other types of unintentional or intentional forms of injuries.

Several nonprofit organizations have also estimated IPV rates in Ecuador. For example, the Ecuadorian Center for the Promotion and Action for Women (CEPAM) reported that the legal services of the Women and Family Commissaries (WFC) served close to 600,000 cases of IPV between 1995 and 2006. However, WFC cases do not translate directly to the number of victims or the number of convictions, as victims may seek legal assistance more than once. The only population-based survey that has measured IPV prevalence in Ecuador is the Demographic, Maternal and Infant Health Survey, known as ENDEMAIN, conducted by the Center for the Study of Population and Responsible Parenthood (CEPAR). The results from the ENDEMAIN, published in 2004, indicated that among women in their reproductive years (15–49 years of age), 41% reported having experienced emotional violence, 31% physical violence, and 12% sexual violence by their spouse or partner over their lifetime. When asked about their experience of IPV in the last 12 months, 15% of the Ecuadorian women in the sample reported suffering from emotional violence, 10% from physical violence, and 4% from sexual violence, after controlling for place of residence and income. ENDEMAIN followed the World Health Organization and the Centers for Disease Control and Prevention to design violence scales for definitions to classify IPV. This classification includes: emotional violence as humiliated, yelled offensively and/or threatened to hurt someone you care or love; physical violence as pushed or thrown an object, slapped or grabbed arm, hit w/fist or kicked, kicked/choked or beaten, threaten w/knife gun or other weapon; and sexual violence as forced to have intercourse.
Despite the high prevalence of IPV, the Ecuador government has failed to develop national policies to help prevent IPV and to provide victims with legal and health services. In fact, only 3% of the social welfare allocation of public funds has been directed to programs or interventions that prevent IPV or gender-based violence or discrimination.\textsuperscript{21} 

Given the power of economic data to influence policy making, the goal of this study is to produce the first estimates of the economic impact of IPV in Ecuador in order to identify the policy paths in which these estimates would have the greatest impact for Ecuador.

**METHODS**

**Analytic Approach**

As described by Brown et al.,\textsuperscript{22} in this analysis we used the bottom-up method for estimating the economic burden of IPV, such that the reported prevalence of IPV was multiplied by the direct and indirect unit costs associated with IPV to calculate total economic burden. This is the same approach used by researchers in the U.S., the United Kingdom, Canada, New Zealand, Switzerland, Chile, and Nicaragua, among others.\textsuperscript{12–14, 9, 10} The direct costs included in this study are the resources required to provide medical and legal services, and international support for capacity building efforts of national authorities developing IPV prevention policies. The indirect costs included are losses in productivity, valued from paid work, associated with IPV injuries.

**Data Sources**

The data used in this paper were drawn from the period 2003–2004 from a variety of sources including: the scales of violence against women and household and personal annual expenditures of injury victims (fractures, punches, and injuries) from ENDEMAIN—2004; the medical costs associated with the implementation of the Free Maternity and Child Care Law (LFMC); the institutional and financial reports from the Ecuadorian Center for the Promotion and Action for Women (CEPAM); financial records from the Women and Family Commissaries (WFC); the National Center for Gender (DINAGE); and the National Institute of Ecuadorian Statistics and Census (INEC). In addition, we confirmed the validity of the data sources with local stakeholders and experts such as the former director of DINAGE and the Director of CEPAM. Table 1 presents a description of these datasets and variables.

Although we collected data for this study from different sources, it is the major assumption of this study that the data sources can be linked together to draw general conclusions of IPV prevalence and economic burden. In fact, this is the same approach taken by others conducting economic burden of IPV analyses, including the U.S. study.\textsuperscript{10}

**IPV National Prevalence**

The 2003–2004 IPV prevalence used in this study was estimated from the population-based demographic survey performed by the Ecuadorian government in 2004. ENDEMAIN used a probabilistic stratified sample and face-to-face interviews with an N=9576 women in their reproductive years. Details on the prevalence estimation can be found in the organization’s final report.\textsuperscript{2} ENDEMAIN asked women about their experiences of domestic violence in their lifetime and in the last 12 months using three scales: 1) history of violence experienced up to 14 years of age (either witnessed or experienced personally); 2) sexual abuse defined separately as forced sex with penetration and sexual abuse without penetration; and 3) IPV generally, as emotional abuse, physical violence, and sexual violence. This study used the IPV scale only. Self-report population-based surveys are considered the most reliable method for obtaining information on violence against women in the general population as women report their experience of violence regardless of whether they sought help.\textsuperscript{5} 

ENDEMAIN’s estimation of the number of IPV victims for the period of 2003–2004 was based on positive responses in any of the IPV questions measured, in the last 12 months, and then projected on national percentages of women in those age groups.\textsuperscript{2}

**Estimation of Direct Costs**

Direct costs included medical, legal, and non-refundable international support for local efforts to prevent IPV.

Medical costs included the marginal increase in treating IPV injuries in government-operated clinics and hospitals, as well as the out-of-pocket medical expenses incurred by IPV victims. We extracted marginal costs of medical expenditures from the cost analysis performed by Grupo Faro of the Free Maternity and Child Care Law (LFMC).\textsuperscript{21} Grupo Faro’s analysis is one of the few studies in Ecuador to focus on patient-level costs of specific types of injuries. We extrapolated IPV victims’ out-of-pocket medical expenses from the household and personal annual expenditures scales in ENDEMAIN to identify victims who reported fractures and injuries from violence and those who report self-medication and care.\textsuperscript{2} Following best practices in the bottom-up approach, we estimated the total costs of medical care services by multiplying the unit costs and marginal costs of each medical care category by the number of women who reported IPV in the last 12 months in relation with the known percentage of women who are estimated to seek medical services.

The direct costs associated with legal services included in this study were public funds allocated for salaries and administrative expenses in public legal services in 34 Women and Family Commissaries (WFC) in 18 provinces in Ecuador. WFC provides legal services and judicial assistance to IPV victims with injuries that do not exceed more than three days of physical disability.

Finally, we included nonrefundable donations from international nonprofit organizations to prevent and treat IPV victims. These direct costs were incurred by the Ecuadorian Center for the Promotion and Action for Women (CEPAM) to train and strengthen the capacity of Women and Family
Commissaries and the National Center for Gender (DINAGE). CEPAM is a well-recognized not-for-profit women’s organization in Ecuador for developing innovative research and initiatives in gender-based discrimination prevention, violence prevention, and women’s rights advocacy.23 DINAGE is the national authority for developing public policies to decrease domestic and IPV and promoting gender equality.24

### Estimation of Indirect Costs

We estimated indirect costs using the method from the Inter-American Bank estimation of the social and economic cost of domestic violence in Chile and Nicaragua.14 These include the lost wages of paid workers as the result of IPV injuries sustained by the women in their reproductive years. The lost income per day was calculated using the daily rate of the minimum salary established by the National Central Bank for Ecuador, set at $5.50 per day.25 This represents a nominal average wage of $166 per month in 2004. We derived the average days lost from physical violence from the Centers for Disease Control and Prevention’s 2003 estimation of Costs of Intimate Partner Violence Against Women in the United States.26

We collected all costs for the 2003–2004 fiscal year to compare to IPV prevalence during that same 12-month period. All direct costs were adjusted to the 2012 U.S. currency rate using the general consumer price index published by the Ecuadorian Central Bank;27 while indirect costs were adjusted by a 1% annual increase from 2004 to 2012 following Haddix et al.28

### RESULTS

Based on a prevalence of 255,267 women who were victims of IPV in the 2003–2004 year, the total economic burden is estimated at approximately $109 million adjusted to the 2012 U.S. currency rate (Tables 2 and 3).

The largest cost category contributing to the burden was the direct costs of healthcare expenditures, at approximately $96 million adjusted to the 2012 U.S. currency rate (Table 4). The indirect costs of lost productivity, more than $10.5 million adjusted to the 2012 U.S. currency rate, represented

### Table 1. Data sources used in the estimation of the economic burden of intimate partner violence (IPV) for Ecuador.

<table>
<thead>
<tr>
<th>Source of data</th>
<th>Variables</th>
<th>Cost estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic, Maternal and Infant Health Survey, ENDEMAIN-04</td>
<td>• National IPV prevalence of physical, emotional and sexual violence.</td>
<td>Direct costs &amp; indirect costs</td>
</tr>
<tr>
<td></td>
<td>• % of women that sought help in a public health clinic.</td>
<td>Direct costs: medical services (public clinics)</td>
</tr>
<tr>
<td></td>
<td>• Household and personal annual expenditures subscale</td>
<td>Direct costs: medical services (out-of-pocket)</td>
</tr>
<tr>
<td></td>
<td>• % of IPV victims who do not work</td>
<td>Indirect costs: unpaid lost productivity</td>
</tr>
<tr>
<td>Free Maternity and Child Care Law (LFMC) - 2004</td>
<td>• Marginal increase in public health expenditure to treat an IPV injury</td>
<td>Direct cost: medical services</td>
</tr>
<tr>
<td>Women and Family Commissaries (WFC) and National Center for Center financial reports - 2004</td>
<td>• WFC personnel costs</td>
<td>Direct costs: legal services</td>
</tr>
<tr>
<td>Financial statement and budgets from CEPAM and DINAGE - 2004</td>
<td>• Capacity building of WFC and DINAGE</td>
<td>Direct costs: capacity building</td>
</tr>
<tr>
<td>National Central Bank</td>
<td>• Minimum wage 2004</td>
<td>Indirect costs: paid work</td>
</tr>
</tbody>
</table>

Commissaries and the National Center for Gender (DINAGE). CEPAM is a well-recognized not-for-profit women’s organization in Ecuador for developing innovative research and initiatives in gender-based discrimination prevention, violence prevention, and women’s rights advocacy.23 DINAGE is the national authority for developing public policies to decrease domestic and IPV and promoting gender equality.24

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### Table 2. Direct costs of healthcare expenditures: Public expenditures in the national network of healthcare clinics and out-of-pocket expenses.

<table>
<thead>
<tr>
<th>Cost per visit</th>
<th>Prevalence 2003–2004</th>
<th>% of women incurring costs</th>
<th>Total economic burden in 2004</th>
<th>Adjusted to 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average out-pocket expenses of injury victims (CEPAR - 2004)</td>
<td>$450</td>
<td>255,267</td>
<td>57%</td>
<td>$65,475,986</td>
</tr>
<tr>
<td>Marginal cost to treat an IPV injury (LMGYAI network of clinics)</td>
<td>$2.00</td>
<td></td>
<td>7%</td>
<td>$35,737.38</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>$96,790,652</td>
</tr>
</tbody>
</table>

CEPAR, Center for the Study of Population and Responsible Parenthood; IPV, intimate partner violence.
another significant portion of the economic burden. Direct legal services sought by IPV victims in Women and Family Commissaries and institutional expenses by local nonprofits and local authorities engaged in developing violence prevention policies accounted for approximately $1 million in 2004. Assuming an equal investment in 2012, this amount represents $1.8 million in 2012 (Table 5).

DISCUSSION

Violence against women has grave consequences for women, their children, and society as a whole. Women who experience violence suffer from a range of health problems, which are both physical and mental, and their ability to participate productively in public life is greatly diminished. Specifically, violence reduces the capacity of victims to contribute productively to the family, the economy, and public life. It also drains resources from social services, the justice system, healthcare agencies, and employers.29

The approximation presented in this paper is the first economic burden estimate of IPV for Ecuador. This estimate quantifies the burden associated with IPV injuries. Quantifying the economic and public health burden allows the Ecuadorian general public and authorities to understand the impact of the disease relative to other diseases or illnesses and to set priorities based on how diseases impact the functioning of the population.

Our economic burden of IPV estimate is approximately $109 million adjusted to the 2012 U.S. currency rate from a societal perspective. This perspective includes all costs regardless of who pays the costs and who experienced the benefits. The largest cost category contributing to the economic burden is the costs of healthcare services. Although the costs to treat the injuries associated with IPV are substantial, we recognize that these costs significantly underestimate IPV’s true burden to society. First, less than 8% of women that suffer from IPV seek help from any institution, including medical care and legal aid services.19 Reasons for this include: barriers to healthcare service access; victims’ distrust of institutions that provide help or care; gender-based discrimination in legal and medical care institutions; and lack of assurances of confidentiality for victims. Second, we only had data from public health clinics. Medical costs in private clinics and hospitals were not available nor were data on mental healthcare, emergency department (ED) visits, hospitalizations, outpatient clinic visits to private hospitals, ambulance transport, paramedic assistance, and services of physicians, dentists, and physical therapists. Therefore, our economic burden estimates represent only the tip of the iceberg when considering the true economic burden of IPV to society. Even so, our results are significant and similar to other economic burden of IPV studies conducted in other parts of the world. For example, medical care costs comprise nearly 70% of the total costs of IPV in the study conducted in the U.S..12

We also consider our indirect costs to be an underestimation of lost productivity. The main categories in indirect economic costs are those related to time lost from work, return-to-work costs (RTW), losses in productivity and subsequent unemployment, and changes in occupation when women suffer from IPV.9 The majority of these types of indirect costs were not measured in our analysis. In addition, the value used for loss of income per day was U.S. $5.50, which assumed a minimum wage for all women. We did not have the distribution of income of IPV victims to adequately extrapolate different income losses based on socio-economic status.

The IPV economic burden estimated in this study can be directly compared to the Ecuador government’s allocation of funds in social investment programs. In 2004, the total budget allocated to social welfare programs was U.S. $1.9 billion. The majority of these funds went to education (67%), while health received 21%, welfare programs 5%, employment projects 2%, and 4% for housing projects.20 However, Grupo Faro has reported that only 3% of these allocated resources were
invested in programs that addressed women’s reproductive health, gender inequality, and violence. Our estimation represents twice this value for IPV alone. Additionally, it has been reported that in 2004 governmental agencies in Ecuador responsible for preventing and treating violence against women spent less than U.S. $3 million.21 Our estimate of the economic burden of IPV is close to 36 times greater than what was invested in the prevention and treatment of IPV injuries.

LIMITATIONS

The results of this study must be considered in light of its limitations. First, IPV prevalence was measured using self-report, relying on the participants’ recollection of past events. Although the standard approach for assessing intentional violence is via self-reported anonymous questionnaires, ENDEMAIN’s purpose was to assess maternal and infant outcomes. Methodological considerations for assessing domestic violence suggests that large surveys that are primarily aimed at other issues underestimate the prevalence of violence against women when compared to surveys specifically dedicated to investigating violence against women.31 Second, because access to economic data was difficult to obtain we made many assumptions to gather enough information to make the calculations in this study. Some of these assumptions include: minimum wage of IPV victims, percentage of women not seeking clinical care after an episode of violence and percentage of women who self-treated their own injuries. Further, this study was unable to differentiate the types of IPV in estimating the costs. There are important consequences and variations in costs that are dependent on the type of violence experienced. Finally, this paper does not address the costs associated with the consequences of witnessing IPV for children in the household. Evidence suggests that children who were exposed to domestic violence between parents are at an increased risk of conduct disorders and accentuating a cycle of violence between generations.32

CONCLUSION

Despite these limitations, this study presents, for the first time ever, an estimate of the economic burden of IPV in Ecuador. Given the tremendous economic impact of IPV in Ecuador, $109 million in the 2012 U.S. currency rate, the Ecuador government, not-for-profit organizations and civil society organizations should draw on innovative approaches to prevent IPV and to ameliorate the devastating economic and human toll. These approaches should include community dialogue and awareness and mobilization initiatives. Economic burden estimates should be considered as one of these innovations to inform the policy-making process, and as such, improvements should be made to enhance the surveillance of IPV prevalence, and to include costs of treating IPV in the surveillance tools. The approximation of economic burden is critical to Ecuador’s society to move forward the public policy of violence prevention.

The asymmetry between the economic burden of IPV in Ecuador and the amount that the government devotes to IPV prevention efforts suggests the need for a greater role to be played by the government and other actors in society in the area of IPV prevention. The recognition of violence against women as a violation of human rights implies a binding obligation of the Ecuador government to prevent, eradicate, and punish violence against women. Addressing violence against women as a human rights issue encourages a multi-sectorial response from the criminal justice, health, development, humanitarian, and security sectors.5,30 The subject of domestic and gender-related violence figures prominently on the public agenda; however, political instability and constant changes of Ecuadorian authorities inhibit the implementation of initiatives aimed at enhancing women’s access to justice and healthcare services, truncate progress and have a dampening effect. In May 2008, the Ecuador Constitution was rewritten to include specific wording that would guarantee women’s right to live free from fear of violence and would prohibit any physical, emotional, sexual, or moral coercion by adopting measures to prevent, eliminate, and sanction any type of violence against women, girls, and children. To date, these efforts have yet to show an effect.

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REFERENCES