Economic Costs of Intimate Partner Violence in Ethiopia

Duvvury Nata[1]*, Haji Jema[2], Kifle Dereje[3], Chadha Mrinal[4], and Forde Caroline[5]

Abstract

Reduction of intimate partner violence (IPV) against women is a recognised public health goal worldwide. However, the negative economic impacts of IPV against women, households and the economy are not well studied, especially in African countries. Based on a primary quantitative survey of 2,095 women, this study addresses this gap by estimating the economics costs of IPV against women in Ethiopia, focusing on out-of-pocket (OOP) costs, lost productivity and poverty. According to our study, the lifetime prevalence of intimate partner violence (IPV) is approximately 36%, while the prevalence of IPV within the past year is around 21%. In terms of lost productivity, women missed an average of 19 care workdays due to IPV and husbands (perpetrators) missed 11 care workdays. In addition, working women had a productivity loss of about 17 days due to violence experienced in lifetime. OOP costs were also substantial. In nearly a third of incidents (34%), women reported incurring an average expense of 2,934 Birr, which represents roughly 10% of their annual earnings. Furthermore, using Propensity Score Matching (PSM) analysis, it was found that intimate partner violence (IPV) resulted in a reduction of 372.83 Birr in women's income, 929.90 Birr in household income, and 332.95 Birr in household spending. The consequences of intimate partner violence (IPV) for women and their families entail substantial financial instability and negative effects on social well-being. These results stress the importance of integrating IPV prevention and response measures into national policies and budgets, as well as strongly improving current initiatives to prevent and combat IPV.

[1] Center for Global Women's Studies**,** School of Political Science and Sociology, University of Galway, Galway, Ireland
*Corresponding Author: Email: nata.duvvury@universityofgalway.ie
[2] Haramaya University, Oromia, Ethiopia
[3] Frontieri Consult PLC, Addis Ababa, Ethiopia
[4] School of Business, South East Technological University, Ireland
[5] Domestic Violence Advocacy Services, Sligo, Ireland

1.   Introduction

Violence against women and girls (VAWG) represents a major issue globally, impacting society, the economy, and public health, and transcending cultural and religious boundaries. Globally, almost one-third of women (30%) have experienced physical and/or sexual intimate partner violence (IPV) or non-partner sexual violence (NPSV) or both in their lifetime (WHO, 2021). The prevalence of IPV is higher in Sub-Saharan Africa (SSA), where approximately 45.6% of women have been subjected to at least one form of IPV in their lifetime (Muleneh et al., 2021).

In the most recent Ethiopia Demographic and Health Survey (EDHS), 34% of ever-married women aged 15-49 reported ever experiencing emotional, physical or sexual violence by their current or most recent husband/partner (Central Statistical Agency (CSA) [Ethiopia] and ICF, 2016). Controlling behaviors by intimate partners, involving at least three types, were reported by 16% of ever-married women. Additionally, 28% of ever-married women between the ages of 15 and 49, have encountered physical and/or sexual intimate partner violence (IPV) at least once in their lives, with 20% experiencing such violence within the past year. A significant 81% of women who endured emotional, physical, and/or sexual violence from their spouses or partners also reported that their husbands or partners frequently consumed alcohol to the point of intoxication. Economic violence was not measured in the 2016 EDHS. Local research studies have pointed to significantly higher incidences of both physical and sexual violence. For instance, a study at Gondar Referral Hospital found that almost 59% of pregnant women experienced domestic violence, with emotional violence being the most prevalent at almost 58%, followed by physical violence at 32%, and sexual violence at 8%.

While prevalence of violence is an important estimate, it is the determinants/correlates of violence that helps researchers and policymakers in violence prevention (Chadha et al., 2020). The 2016 EDHS IPV data reported by MoWSA (2019) also provided detailed information on violence categorized by factors like women's property ownership and education levels. For example, the study revealed that increased educational opportunities for girls and young women are associated with reduced incidents of spousal violence. Additionally, the research investigated the connection between VAWG and women's empowerment, the adverse effects of VAWG, and women's tendencies to seek assistance. Notably, only 23% of women who experienced physical and/or sexual violence sought support.

1.1   Impacts of IPV

Intimate Partner Violence (IPV) significantly impacts the welfare of women and their households through a complex interplay of physical, mental, and socio-economic mechanisms. Recent studies have highlighted how economic abuse limits women's financial independence, reinforcing the economic instability that often accompanies abusive relationships (Asante et al., 2019; Elmusharaf et al., 2019; Ghaus et al., 2019). A complete understanding of these mechanisms is essential for developing effective interventions.

One key mechanism is the profound physical health impact of IPV, ranging from immediate injuries to chronic conditions as highlighted by research by Campbell (2002) and Coker et al. (2002). In addition to physical health, IPV significantly affects the mental health of IPV survivors. A crucial meta-analysis conducted by Golding (1999) highlights the significant association between IPV and mental disorders, including depression and anxiety. These psychological impacts go beyond survivors, impacting other household members who witness violence, especially children (Levendosky and Graham-Bermann, 2001).

The welfare implications of IPV will be incomplete without understanding the economic dimensions of IPV. Literature has consistently established the negative economic consequences of VAWG, including IPV and/or NPSV. For instance, a myriad of studies conducted in the US and OECD countries have identified various work-related consequences of intimate partner violence (IPV). These include issues such as unemployment, job insecurity, absenteeism, tardiness, work interruptions, and decreased job effectiveness. (Alasker, et. al, 2016, Anderson et al., 2014, Blodgett and Lanigan, 2018, Crowne et al., 2011, Kulkarni and Ross, 2016, Logan et al., 2007, Rayner-Thomas, 2013 and Wathen, et al., 2015). On the other hand, research on work-related consequences of VAWG in low and middle-income countries is scant (IFC, 2019b, IFC, 2019a, Chadha et al., 2020, Duvvury et al., 2022, Chadha et al., 2022).

Given the limited literature on the negative economic impacts of IPV in African countries, including Ethiopia, the current study fills this gap by providing reliable estimates on the economic costs of IPV in Ethiopia. Based on Duvvury et al. (2019), this study primarily uses accounting methodology to estimate direct and indirect costs of IPV. This study also employs Propensity Score Matching (PSM) to estimate the difference in productivity loss, women's income, household income and expenditure between survivors and non-survivors.

This research establishes the substantial economic costs of Intimate Partner Violence (IPV) in Ethiopia. This study points to the significant drain of household resources due to out-of-pocket (OOP) expenses incurred by survivors and loss of care workdays. Working women demonstrate a higher prevalence of lifetime violence, suggesting work as a potential risk factor. The study points to a productivity loss of almost 17 days for working women experiencing lifetime violence. Propensity Score Matching (PSM) analysis reveals that IPV survivors have significantly lower income, contributing to income insecurity, negative social well-being, and adverse effects on the economy.

Our recommendation is for the government to integrate gender-based violence (GBV) prevention and response measures into national policies and budgets. In particular, we advocate for special emphasis on Intimate Partner Violence (IPV), within the broader GBV programs and training initiatives, as the current response predominantly centers on GBV, particularly sexual assault. Additionally, there is a crucial need to integrate the impacts of IPV into economic and social planning as well as policies for a more comprehensive approach to addressing this issue.

2.   Research Methodology

This article draws from a larger mixed-methods study focused on estimating the economic costs of IPV in Ethiopia - estimates of the yearly direct expenses incurred by households due to intimate partner violence (IPV), the indirect costs associated with IPV, and the annual costs related to providing IPV services. (UN Women Ethiopia, 2022). This article focuses on the quantitative findings of the study in terms of OOP costs, lost productivity and poverty.

2.1.   Conceptual Framework

Figure 1 below shows the conceptual framework that guides this study. It is widely understood that domestic violence has several impacts that result in losses for women, families, communities, businesses, and broader societal costs at macroeconomic level. Figure 1 depicts the pathways through which IPV affects the welfare of women and their households, which further lead to a range of economic and social costs at the individual/household level, community/business level and the government/state level.

Figure 1: Conceptual Framework
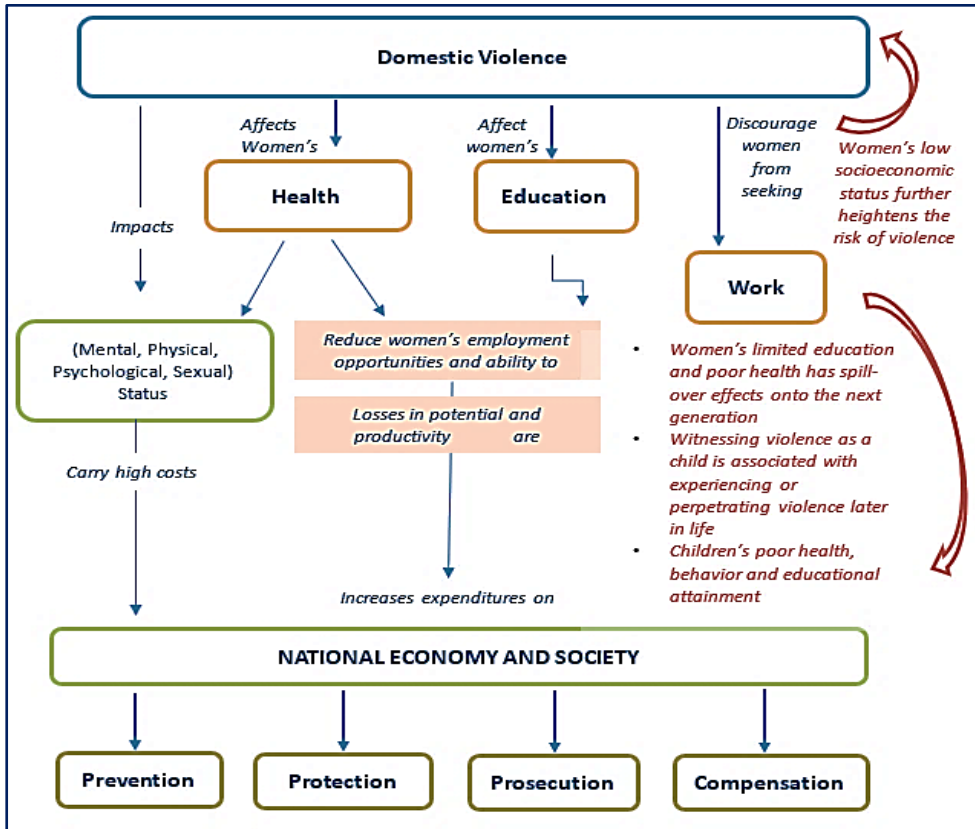
Source: Duvvury *et al*. 2017

2.2. Data Collection Method

An accurate estimation of the costs and impacts of intimate partner violence (IPV) in Ethiopia requires collection of high-quality quantitative data through a national survey. Such a survey is essential not only for identifying the incidence and prevalence, but also the economic costs of IPV, as well as its broader impacts on households, communities, and the country as a whole. Conducting a household and women's surveys involving women aged 18-59 years and household heads or other knowledgeable adult members is considered the most reliable approach to gather information on the extent of VAWG in the general population. The questionnaire used in the current study was developed and adapted to the Ethiopian context in collaboration with relevant stakeholders, drawing on insights from previous costing surveys.

The success of this particularly sensitive study hinges on the efficacy of field operations, particularly in the recruitment of essential field personnel—namely, supervisors, enumerators, and interviewers. Consequently, enough qualified and experienced enumerators, interviewers, and supervisors were enlisted, trained, and deployed to ensure the completion of the fieldwork within the predetermined timeframe. The selection criteria for field staff were primarily based on their prior experience in sensitive data collection related to IPV, sexual and reproductive health, and HIV/AIDS. Their proficiency in local languages and English, as well as their prior experience with tablet or computer-based electronic data collection, were also considered. Additionally, consideration was also given to the ability to comprehend the nuances of the questions, enthusiasm and motivation for the demanding fieldwork, full-time commitment, physical capability to travel and work in potentially challenging environments, familiarity with the study areas, teamwork aptitude, cultural sensitivity, and relevant technical skills and training in data collection.

Furthermore, a deliberate effort was made to recruit more female data collectors, recognizing their greater ease in approaching women respondents and understanding their experiences compared to male counterparts. The one-week training for field staff placed a primary focus on IPV, communication with survivors, and adherence to ethical standards ensuring survivor and interviewer safety, as well as maintaining confidentiality. WHO's ethical and safety recommendations for intervention research on violence against women were consistently followed (WHO, 2016).

The initial sections of the questionnaire focused on gathering household information and were administered with the household head or another knowledgeable member. Once completed, subsequent sections of the survey were conducted with a selected randomly chosen woman. The primary objective of the women's survey was to gather detailed information on the selected woman's experiences with intimate partner violence (IPV) and its repercussions on herself, her spouse, and children.

Unlike data obtained through other methods such as administrative records, personal observations or in-depth interviews, population-based surveys allow us to collect data from randomly selected samples that can be generalized to the entire population. These surveys provided a more precise depiction of actual examples of victimization compared to reports filed with authorities like the police. By directly questioning women about their experience of IPV, population-based surveys offer crucial insights into the prevalence of IPV against women. Trained enumerators or interviewers conducted individual face-to-face interviews using tablet or computer-based questionnaires.

2.3.   Description of the Study Area and Population

The study was conducted in three of Ethiopia's eleven regions—Oromia, Amhara, and Southern Nations, Nationalities, and Peoples' Region (SNNPR)—as well as Addis Ababa, one of the two City Administrations. Fieldwork was conducted from September 2021 to December 2021. These regions and the city administration collectively represent a significant portion of Ethiopia's population, exceeding 80% (CSA, 2013), and showcase the survey's ability to capture diverse geographic and ethnic makeup of Ethiopia. They also contribute substantially to Ethiopia's GDP, approximately 82% (Amsalu et al., 2017). The survey focussed on households and women from both rural and urban areas across Ethiopia. MoWSA provided support letters to regional and sector offices to facilitate the data collection process.

2.4.   Sampling Procedure

The study used multi-stage probability sampling techniques, which included systematic, simple random, and cluster sampling methods, to choose representative households and women. This process included randomly choosing sample zones or sub-cities, woredas (districts), kebeles (wards), and households. The selection of woredas, kebeles, and households was based on their respective regions' or city's contribution to Ethiopia's GDP. According to Amsalu et al. (2017), Oromia, Amhara, SNNPR regions, and Addis Ababa city contribute 33.6%, 17.3%, 19.9%, and 11.2% to the country's GDP, respectively, totalling 82%. To allocate the 2,095 sample households proportionally among the regions and city, the sample size was distributed as follows: 41% for Oromia, 21.1% for Amhara, 24.3% for SNNPR, and 13.6% for Addis Ababa. This led to random selection of three zones from Oromia, two zones each from Amhara and SNNPR, and two sub-cities from Addis Ababa. Subsequently, three districts (two rural and one urban) were randomly selected from each zone in the three regions, and three urban districts were chosen from Addis Ababa, totalling 27 sample districts across the regions and city administration. After district selection, all kebeles within the chosen districts were listed, and three kebeles were randomly selected from each district for inclusion in the survey

A sampling frame consisting of lists of households was obtained from the kebele administration of selected kebeles. Household selection for the study was conducted randomly from this frame. An additional list of households was prepared as a backup in case the selected household did not have a woman meeting the inclusion criteria or if the selected woman declined to participate. In kebeles with

clusters, about 3-4 clusters were randomly chosen from each kebele. Enumerators and supervisors were provided with addresses of both selected and alternative households. In situations where household lists were unavailable for selected kebeles, enumerators and supervisors would identify a landmark in certain areas of the kebele or cluster. From this central point, households were randomly selected in all directions (e.g., every 3rd or 4th household) based on the housing density in the kebeles.

For the selection of women participants, if there were multiple adult women in a household, one woman was chosen randomly using a KISH grid method. Furthermore, women within households in each sampled kebele were stratified by age, education level, and employment status. Eventually, a probability proportional to population size method was employed to randomly select 2,095 households from these kebeles for interviews with household heads or other knowledgeable household members, as well as with women. Table 1 below provides the sample zones, woredas, kebeles, households, and women included in the quantitative data collection process.

Table 1: Sampling households for quantitative data

Region/City	Total Zones/ Sub-Cities	Sample Zones/ Sub-Cities	Total Woredas	Sample Woredas	Sample Kebeles	Sample Households
Oromia	22	3	287	9	27	858
Amhara	11	2	169	6	18	442
SNNPR	16	2	133	6	18	508
Addis Ababa	10	2	116	6	18	286
Total	60	9	705	27	81	2,095

Source: Authors' own

2.5.   Estimation of Economic Costs

Based on Duvvury et al. (2019), this study primarily uses accounting methodology to estimate direct and indirect costs of IPV. Under this methodology, the costs of services utilized by women due to intimate partner violence (IPV) are estimated by multiplying the unit cost incurred by each woman by the frequency of service utilization. This approach is also applied to estimate indirect costs, such as the economic impact of missed caregiving duties.

Accounting methodology provides a comprehensive assessment of economic costs, considering both direct and indirect costs, and providing a fine

understanding of the financial implications of violence on women, society and economy. The use of quantifiable metrics assists in precise measurement and comparison across different types of violence, regions, and timeframes, providing policymakers with data-driven insights. The economic cost estimates arising out of this methodology have worked as compelling tools for advocacy, raising public awareness, and accumulating support for preventive measures. The economic costs estimated using accounting methodology can be further used for cost-benefit analysis of various interventions to reduce domestic violence.

This study also employs Propensity Score Matching (PSM) to estimate the difference in productivity loss, women's income, household income and expenditure between survivors and non-survivors. In impact evaluation studies using non-experimental or quasi-experimental designs, different approaches can be used but there are three widely used models, namely propensity score matching (PSM), two-stages least squares (2SLS), and endogenous switching regression (ESR) models. Of the three, PSM and ESR models are often used to correct for self-selection bias and heterogeneity. This study used an ESR model to control for self-selection problems and heterogeneity. To check for the robustness of the estimates, PSM was also used. ESR model is a parametric approach that uses two different estimation equations for the IPV and non-IPV women by adding the inverse mills ratio, controlling for selection bias. Inverse mills ratio is calculated through a selection equation in the first stage where the selective sample is treated as a missing data problem. Then for each regime conditioned on being victim of IPV, the outcome equations are disposed of differently, which are estimated by a probit model.

2.5.1. *Prevalence of violence*

This research uncovers the prevalence of violence over the past year and throughout a woman's lifetime. The prevalence rates were estimated by asking women about their experiences with specific forms of psychological, economic, physical, and sexual violence. Women who were currently partnered or had been separated, divorced, or widowed in the past year were asked about their experiences both within the last 12 months and prior to this period. Women who had been married or cohabiting before the past year were only asked about their experiences during that time. The data on violence behaviours was collected using an ordinal scale: 'never', 'rarely', 'sometimes', and 'often'. For a detailed list of the behaviours examined, refer to the Annexure. Given the gaps in current literature, this survey particularly focused on economic violence.

Following international standards (Sardinha et al., 2022), if a woman reported experiencing any form of violence at least once in the past year, she was classified as having experienced violence. If a woman reported experiencing violence either in the past year or before, she was classified as having experienced violence in lifetime. Furthermore, women were also asked about the total number of incidents they had experienced. To facilitate accurate recall, women provided details about incidents from the past year, including the nature of the incident, its impacts, any help sought, and the costs incurred. The monetary cost estimation was based on this incident-specific information.

2.5.2. *Out of Pocket Expenditure*

Out-of-Pocket (OOP) costs are estimated solely for incidents that occurred within the past 12 months. These costs cover expenses incurred by survivors for accessing legal services, health services, police services, shelter, mediation, and property replacement.

Health Costs

The OOP health costs include expenditures related to an incident of violence, including services from nurses, doctors, pharmacists, or technicians; visits to hospitals, clinics, or health centers; overnight hospital stays; medical tests like x-rays; medication and treatments; alternative medical treatments (such as herbal medicine); other healthcare-related expenses like drinks, food for survivor and companions; transportation; medical consultations; medical or health reports; and mental health services from counselors or psychiatrists.

Legal and Police Costs

OOP legal costs include expenses related to the incident for lawyers, court fees, litigation, consultations like visits to legal consultation centers, legal reports, online consultations, and other related costs like food, communication, transport, etc. Police costs include fees and transportation expenses.

Property Replacement Costs

OOP property replacement costs include spending on replacing items damaged due to the violence incident. These items might include tableware, plates, utensils, electronic devices (like tablets, phones, laptops, TV), electrical appliances,

cars, bicycles, children's toys, antiques, wall clocks, carpets, clothes, furniture, and other items mentioned by survivors.

Shelter and Mediation Costs

OOP shelter costs cover transportation from where the violence occurred to an informal shelter or parent's home, communication costs including cell phone bills, and other related expenses (e.g., accommodation in hotels or privately rented spaces, food, drink, housekeeping). Mediation costs include expenses such as meals for mediators, paying for their transport, etc.

Total Out of Pocket Costs

The total out of pocket costs for each incident are estimated as follows:

$$OOP\ Costs = Health\ Costs + Legal\ Costs + Police\ Costs +$$
$$Property\ Replacement\ Costs + Shelter\ Costs + Mediation\ Costs$$

2.5.3. *Care work loss*

Care work loss, including missed domestic tasks and caregiving for children and the elderly due to the incident, has also been included in this study. Husbands may also stop performing domestic and care work due to their violence against their wives or partners, so their lost days have been included as well.

Care work activities entail supporting children's education (assisting, training and reading); childcare (cleaning, feeding, bathing, changing diapers, providing medical/health care, preparing children for school); and caregiving for the elderly and/or sick (preparing food, personal care, medical care, accompanying to medical/health services).

Domestic activities include a variety of household chores, such as preparing meals, routine cleaning (bathrooms, rooms, kitchen), washing clothes, organizing household items, dusting, washing windows, polishing floors, and taking out the garbage. Shopping for household needs involves buying food products (groceries), school supplies, medical supplies, clothing, household appliances, gasoline and furniture. Additional household chores include external cleaning of the patio, garage and collecting foliage.

Survivors were asked to report the number of days they and their husbands completely or partially missed a particular activity due to the incident. If survivors indicated that an activity was partially missed on some days, the number of those days was halved.

Missed care days were therefore estimated as follows:

$$MCW = \sum_i(\sum_t(DFS_t * M_t) + (0.5 * DPS_t * M_t)) / å \, H_t$$

Where MCW represents Missed Care Work, i denotes the individual woman, t the specific care activity (domestic activity, childcare, or care for elderly/sick members), DFS indicates the days fully stopped for care activity t DPS signifies the days partially stopped for care activity t, and M is the average minutes spent on care activity t in a day. The sum of the hours of care work missed for activity t is divided by the hours typically spent on care activities in a day to calculate the missed days of care work.

In the survey, survivors were asked about the approximate minutes they spend on these activities. However, there were a significant percentage of outliers in the results. For example, 129 women (6%) provided care work minutes in a day to be more than 960 (16 hours) in a day, which is way higher than the average of 7 hours. For this reason, mean time use data from the Ethiopia Time-Use Survey 2013 has been employed[6].

Within the extended System of National Accounts (SNA), the 2013 Time-Use Survey provides data on the average minutes spent on a number of unpaid caregiving services. These services include caregiving for children and adults within the household, as well as unpaid domestic services. For this study, we excluded unpaid community services due to the complexity in monetizing their economic impact.

The Time-Use Survey 2013 report categorizes time-use data for women aged 15-29 and 30-64. To derive an approximate time-use for this study, we calculated the average time spent on activities for women across these age groups. The average daily care work time for women is calculated as the sum of the average minutes spent on providing unpaid caregiving services to children (77.5 minutes), to adults (72 minutes), and on domestic tasks (282 minutes), amounting to a total of 431.5 minutes or 7.2 hours per day.

Similarly, the average daily care work time for husbands is determined by summing the average minutes spent on providing unpaid caregiving services to children (9 minutes), to adults (91.5 minutes), and on domestic tasks (181.5 minutes), resulting in a total of 282 minutes or 4.7 hours per day.

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[6] CSA. (2014). Central Statistical Agency [Ethiopia]. Ethiopia Time Use Survey 2013.

To monetize care work, we employed the median wages for both women and men. We avoided using the minimum wage due to its exceptionally low value. The wage was adjusted to reflect the earnings for a care workday, distinguishing it from a standard workday. This has been done because a care workday cannot be equal to a workday in terms of the working hours. Therefore, first the hourly wage is estimated and then the hourly wage is multiplied by the respective no of care workday hours men and women do.

2.5.4. *Amalgamation of Incidents Cost*

The estimation method considered the fact that reporting of costs was across incidents, rather than as a total cost for all incidents. The estimation strategy for the sample level cost is given below:

$$Aggregate\ Cost = Costs\ for\ survivors\ with\ 1\ incident +$$
$$Costs\ of\ survivors\ with\ only\ 2\ incidents +$$
$$Costs\ for\ survivors\ with\ more\ than\ 2\ incidents$$

$$Costs\ (Survivors\ with\ only\ 1\ incident) = \sum_{i=1}^{n} cost_i$$

Where *n* refers to the survivor who sustains various costs on the sole incident she experienced. Costs include OOP expenses and care work.

$$Cost\ (Survivors\ with\ only\ 2\ incidents) = \sum_{i=1}^{n} cost_i$$

Where *n* refers to the survivor who sustains various costs on the 2 incidents she experienced. Costs include OOP expenses and care work.

$$Cost\ (Survivors\ with\ more\ than\ 2\ incidents)$$
$$= Cost\ of\ 2\ incidents$$
$$+ Cost\ of\ more\ than\ 2\ incidents\ (3rd\ incident, 4th\ incident\ etc.)$$
$$Cost\ of\ 3rd\ incident, 4th\ incident\ etc. = Average\ incident\ cost$$

$$Average\ incident\ cost\ of\ OOP = $$
$$\frac{\sum OOP\ cost\ of\ incidents\ which\ resulted\ in\ OOP\ expenditure}{No\ of\ incidents}$$

$$Average\ incident\ cost\ of\ Care\ Work$$
$$= \frac{\sum Carework\ cost\ of\ incidents\ which\ resulted\ in\ care\ work\ loss}{No\ of\ incidents}$$

2.5.5. *Propensity Score Matching (PSM) & Endogenous Switching Regression (ESM): Productivity Loss, Women's Income, Household Income & Household Expenditure*

Productivity loss due to violence involves absenteeism (missing work), tardiness (arriving late or leaving early), and presenteeism (working irregularly or less productively). The survey included specific questions to measure absenteeism, tardiness, and presenteeism, adapted from Vara-Horna (2013). The estimation weights were derived from Duvvury et al. (2022).

The measurement of household expenditure was done based on the following survey question: How much did your household spend approximately last month on all commodities and services (like food, clothes, electricity, water, phone etc.)? (in Birr)

For measurement of income, the survey asked the following two questions about both women and husband:

- How much income do you usually receive/earn in a month from primary economic activity?
- How much income do you usually receive/earn in a month from secondary economic activity?

The responses of women about their income were used to measure women's income; the responses of women about their and their husbands' income were used to measure households' income.

Propensity Score Matching (PSM) was employed to estimate the difference in productivity loss between survivors and non-survivors. PSM was also used to rigorously establish the impact of violence experienced by women on various outcome variables of interest such as women's income, household income and household expenditure.

Table 2: Survey Questions for Measurement of Productivity Loss

Absenteeism (In the last three months, how many days of work did you miss because…?)	You were unwell
	You had to go to a hospital or a health clinic because you were unwell
	You had to look after a child or other family member because they were unwell
	You had to attend to legal, financial or personal matters
	You did not have enough money for transport to and/or from work
Tardiness (In the last three months, how many days were you late for work by at least 1 hour because…?)	You were unwell
	You had to go to a hospital or a health clinic because you were unwell
	You had to look after a child or other family member because they were unwell
	You had to attend to legal, financial or personal matters
Presenteeism (In the last three months, for how many days...?)	Did you have difficulties concentrating on your work
	Did you work much more slowly than you normally would
	Were you exhausted at work
	Did you have to stop work because you were worried about something
	Did you have to stop work because you had an accident at work

The Propensity Score Matching (PSM) technique encompasses myriad steps aimed at controlling for selection bias in studies of lifetime intimate partner violence (IPV). Initially, factors influencing lifetime IPV and outcome variables are identified, followed by estimating propensity scores and selecting an appropriate matching method. Subsequently, the common support region is defined to ensure overlap in propensity scores between women who have experienced IPV and those who have not. A balancing test is then conducted to verify the similarity in propensity score distributions between treated (IPV-experienced) and control (non-experienced) women. Estimation of treatment effects for both groups follows, comparing outcomes exclusively attributed to IPV experience. Finally, a sensitivity analysis is performed to assess model robustness.

These measures are crucial in mitigating bias by aligning women in the sample based on propensity scores, facilitating comparisons between those who have experienced IPV and those who have not. PSM was performed in STATA 15 using the teffects psmatch command.

The Endogeneous Switching Regression (ESR) model captures the unobserved heterogeneity which is one of the limitations of PSM. ESR model was estimated using the FIML approach which derives both the selection and outcome equations jointly. The first stages of the estimation of ESR models are presented first as selection equation while the second stage of the estimation, i.e. estimation of separate outcome equations for women experiencing IPV and not experiencing IPV follows.

The second stage of the FIML shows the estimated coefficients of the correlation, between women experiencing IPV and all outcome variables, namely woman income, household income, household expenditure and productivity loss.

2.6.   Limitations

There are a number of limitations to be considered while interpreting the findings of this study. Firstly, the survey's coverage of psychological violence behaviours was limited, potentially leading to an underreporting of the true prevalence of overall violence experiences. Secondly, the survey collected cost data on an incident basis in the last 12 months. While most women provided cost information for one or two incidents, a minority reported experiencing 3 or 4 incidents but did not supply information for these additional incidents. For these cases, an average incident cost was assumed. Thirdly, the data on the approximate time spent by participants on domestic and caregiving activities lacked robustness. Therefore, to estimate time use for this study, we utilized average data from the 2013 Ethiopia Time-Use Survey, aggregating time-use patterns across age groups 15-29 and 30-64.

Furthermore, accounting methodology used in this study may substantially underestimate the true economic costs of IPV due to underreporting because of fear of reporting, as well as recall bias while answering questions on service use due to violence. Furthermore, PSM, which was employed to estimate women income loss, household income loss, household expenditure loss & productivity loss, has its own limitations. PSM is very prone to bias due to omitted variables. Due to poor, or lack of, data, it was not possible to include all the relevant covariates in the model. The correct specification of the PSM is crucial, and achieving balance in observed covariates between treated and control groups can be challenging, and it may not completely address selection bias.

Respondents were queried about productivity loss over the past three months. To project annual productivity loss, the three-month estimate was multiplied by four. However, this extrapolation may overestimate the actual annual loss by assuming that

respondents missed the same number of days throughout the entire year as in the recent three-month period. Despite efforts to maintain data robustness, the findings should be interpreted as approximations rather than exact estimates.

3. Results

3.1. Demographic Characteristics of Women

Table 3 displays the regional distribution of the surveyed women. Among the 2,095 sampled participants, approximately 41% were from the Oromia region and 21% from the Amhara region, making these the two largest groups. The Southern Nations, Nationalities, and Peoples' Region (SNNPR) accounted for approximately 24% of the sample. Regarding marital status, the survey found that 83% of the participating women were currently married, with 14% of these women having been married more than once.

Table 2: Individual women demographic characteristics

Variables	Percent	Number
Region		
Addis Ababa	13.65	286
Amhara	21.15	443
Oromia	40.95	858
SNNPR	24.25	508
Residence		
Rural	55.75	1,168
Urban	44.25	927
Women marital Status		
Married (once and more)	83.24	1,744
Divorced	6.21	130
Separated	4.58	96
Widowed	5.97	125
Type of residential area		
Villa and apartment	0.77	16
House	93.99	1,969
Independent Room	2.63	55
Others*	2.63	55
	Mean	**Number**
Mean duration of stay after marriage	14.13	1,744
Mean duration of stay of women in this community	18.22	2,095

*'Others' refers to those living in temporary shelters, such as a plastic shelter constructed near to a church or in a corner of a street.

The average age of the women surveyed was 35 years. Approximately 64% of the women identified as Orthodox Christian, while around 37% identified as belonging to the Oromo ethnic group. Educational attainment among the sampled women indicated that nearly 62% had attended school at some point. Of these, 57% had completed primary education, and 29% had completed secondary education. Nearly half of the surveyed women (49.5%) were involved in various economic activities. The majority of these women were self-employed (74%), with approximately 22% being employees in different sectors.

3.2. Prevalence of Intimate Partner Violence

3.2.1. *Prevalence of IPV: Past 12 Months and Ever*

The prevalence of intimate partner violence (IPV) was determined based on various behaviors reported by women in the total sample surveyed, including physical, sexual, psychological, and economic forms. However, for the costing analysis, our focus was on estimating the overall prevalence, considering that the impacts of these behaviors are often interconnected. Figure 2 illustrates the percentage of women in the study who reported experiencing at least one form of violence in lifetime and in the past 12 months.

Figure 2: Prevalence of violence
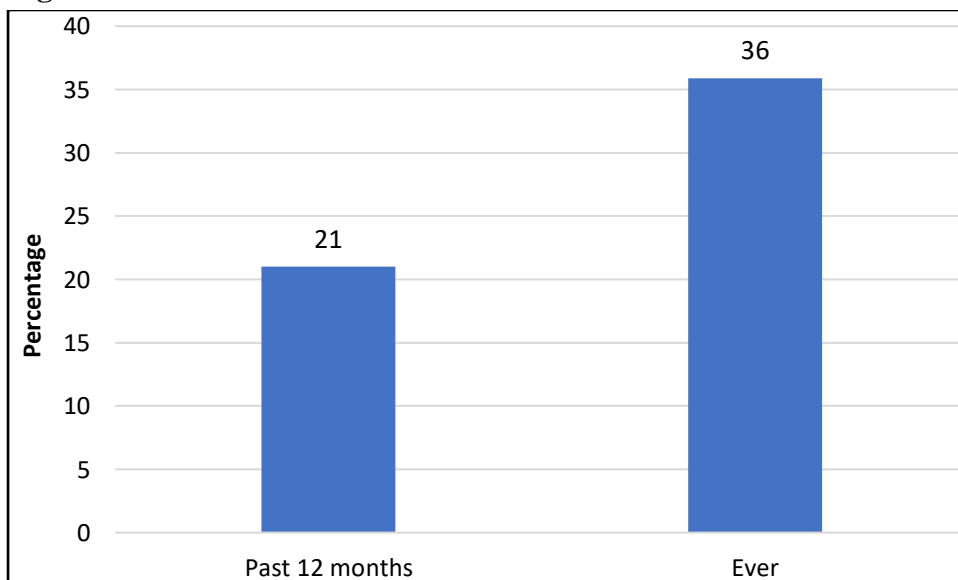
Source: Authors' own calculations

Approximately 21% currently partnered[7] women experienced at least one form of violence in the past 12 months. Furthermore, about 36% of currently or previously partnered[8] women experienced violence at some point of time in their life. These prevalence rates are comparable to the findings from the 2016 Ethiopian Demographic and Health Survey (EDHS), which reported a 34% lifetime prevalence of IPV among women. Moreover, the study found that almost 26% of ever-married women had experienced physical and/or sexual violence at least once in their lifetime, a figure closely aligned with the 28% prevalence rate reported in the 2016 EDHS for ever-married women aged 15-49 experiencing physical or sexual violence.

3.2.2. *Incidents by Type of Violence*

As discussed in the methodology, women who reported experiencing violence in the past 12 months were asked about the number of incidents they experienced during that period. On average, survivors reported experiencing 2 incidents within the past year, with a median of 1 incident. The majority (about 75%) reported experiencing one incident, while 10% reported two incidents. Additionally, around 15% of survivors reported encountering more than two incidents during the same timeframe.

Figure 3 illustrates the breakdown of incidents experienced by survivors, categorizing them into psychological, physical, sexual, and economic violence. Economic violence was involved in approximately 63% of incidents, while psychological violence accounted for about 53% of cases. It's noteworthy that the majority of incidents involved multiple forms of violence concurrently.

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[7] 'Currently partnered women' implies women who have been married/cohabitating/living with a partner in the past 12 months.

[8] 'Currently or previously partnered women' implies women who have been married/cohabitating/living with a partner in the past 12 months or before the last 12 months.

Figure 3: Venn diagram of types of incidents
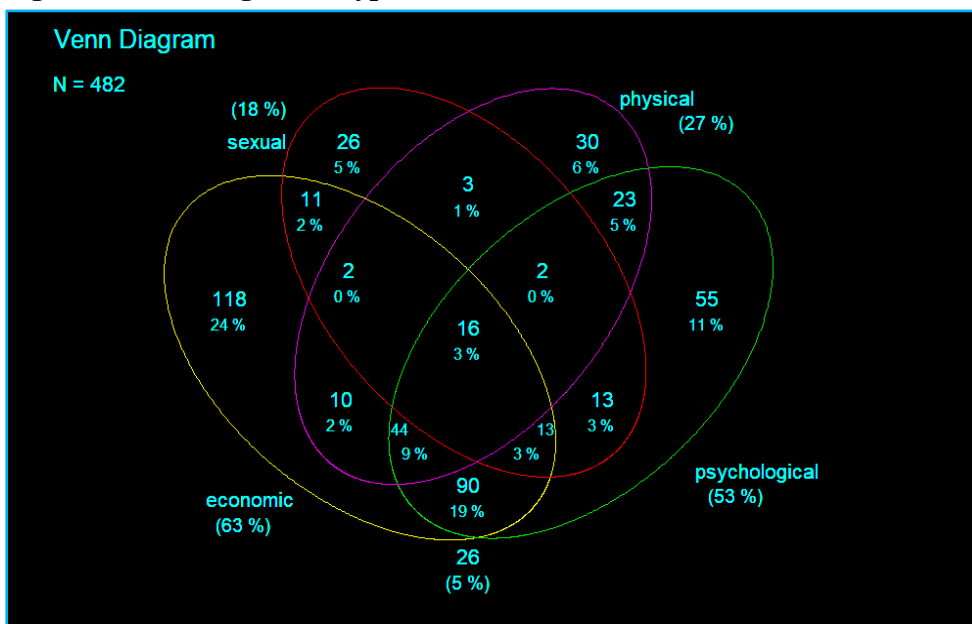
Source: Authors' own calculations

3.3.   Economic Impacts of IPV

3.3.1.   *Out of Pocket Expenditures*

Table 4 presents the findings on out-of-pocket (OOP) expenditures due to the incidents of violence experienced by women. Health-related expenditures, averaging 2,349 ETB (with a median cost of 620 ETB) was incurred in approximately 14% of the incidents. Shelter costs were incurred in 10% of incidents, with a median expense of 160 ETB. Property repair or replacement costs were reported in 13% of incidents, averaging 3,035 ETB. Overall, 34% of incidents resulted in some form of OOP costs, averaging 2,349 ETB (with a median cost of 500 ETB). ***This level of OOP expenditure amounts to approximately 15% of the per capita annual food expenditure in Ethiopia***, representing an important source of drain on household resources[9].

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[9] Per capita food expenditure sourced from https://knoema.com/atlas/Ethiopia/topics/Food-Security/Expenditures-Spent-on-Food/Expenditure-on-food-per-capita.   Using the annual growth of per capita expenditure of 5.33% between 2014 and 2018, same annual growth was assumed between 2018 and 2022, giving a per capita food expenditure of 316.8 USD.

Table 3: Out of pocket expenditures in last 12 months

	N	% of incidents	Average cost (Birr)	Average cost (USD)	Medium cost (Birr)	Medium cost (USD)
Health	67	14	1,346	27	620	12
Legal	23	5	2,270	45	650	13
Police	20	4	289	6	175	3
Property	64	13	3,035	60	300	6
Shelter	48	10	618	12	160	3
Mediation	53	11	249	5	200	4
OVERALL (Birr/USD)	**164**	**34**	**2,349**	47	**500**	10

*Assumed exchange rate of I USD to 50.59 Birr as of 7th February 2022, based on average buying and selling exchange rate of the Commercial Bank of Ethiopia (https://www.combanketh.et/en/exchange-rate/)

3.3.2. *Care Work Loss*

Care work loss was identified as a significant cost in the quantitative survey. Tables 5 and 6 outline the findings regarding care work loss for survivors and husbands, respectively. Approximately 19% of incidents resulted in missed days of childcare and support for children's education, during which survivors were unable to engage in these activities for an average of 12 days. When adjusted for the average time allocated by women in Ethiopia to childcare and supporting children's education, this equates to an average of almost 2 care workdays lost. In total, 25% of incidents led to an average of almost 14 missed care workdays.

Table 4: Care work loss of survivors in last 12 months

Type of Care Work	N	% of Incidents	Days Missed	Average Minutes Spent	Care Workdays Missed
Child Care and Education	91	19	12.2	77.5	2.2
Caring for Elderly and Sick	42	9	5.7	72	0.95
Domestic Activities	97	20	22.6	282	14.8
OVERALL	122	25	29	na	13.7

Additionally, almost 10% of incidents led to domestic activities being missed by survivors' husbands, leading to 12.6 care workdays missed. Husbands

were also involved in care activities, with the overall loss amounting to 12.2 care workdays. Due to IPV, even husbands lose their usual contribution to care work.

**Table 5: Care work loss of husbands in last 12 months**

Type of Care Work	N	% of Incidents	Days Missed	Average Minutes Spent	Care Workdays Missed
Child Care and Education	43	9	12.9	9	0.41
Caring for Elderly and Sick	30	6	6.1	91.5	1.97
Domestic Activities	47	10	19.6	181.5	12.6
OVERALL	55	11	30	na	12.2

3.3.3. *Propensity Score Matching & Endogenous Switching Regression: Productivity Loss, Women's Income, Household Income and Household Expenditure*

As noted in the methodology, PSM & ESR analyses was done to establish the impacts of 'ever IPV' on women's income, household income, household expenditure and productivity loss to gauge the effects of IPV.

In assessing the impact of lifetime intimate partner violence (IPV) on various outcome variables using Propensity Score Matching (PSM), the analysis achieved balanced covariates between the two groups. The highest standardized bias was 0.23 and the highest variance ratio was 1.98, suggesting that after matching, the covariates are sufficiently balanced.

Another important step in investigating the validity or performance of the treatment effects estimation is verification of the common support or overlap condition. Results presented in Figure 4 show the distribution of the estimated propensity scores and the overlap between women experiencing IPV and not experiencing IPV which indicates that the common support condition is satisfied, as there is a substantial overlap in the distribution of the estimated propensity scores for the two groups.

Figure 4: Distribution of propensity scores across treatment and comparison groups
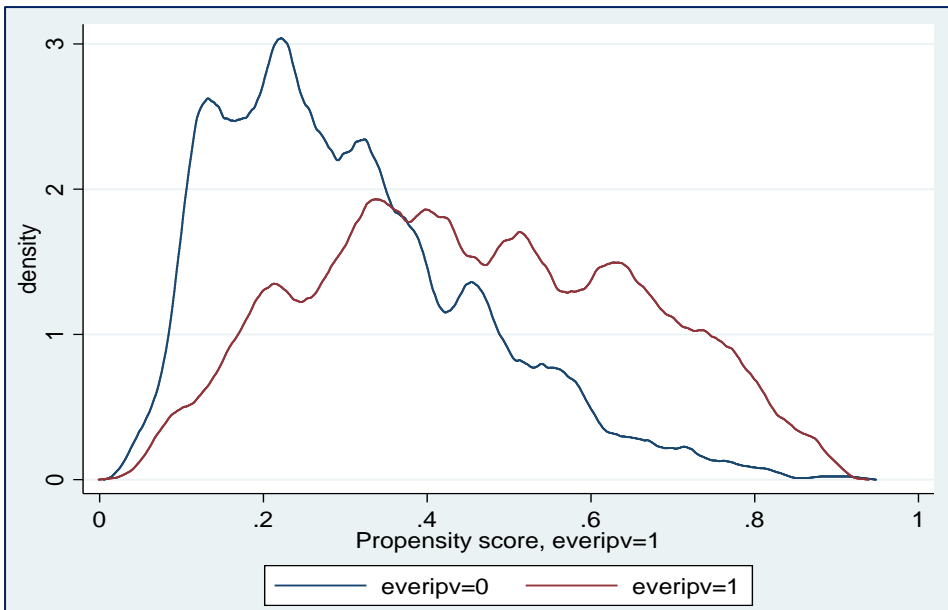
The results obtained from applying the Propensity Score Matching (PSM) algorithm with a caliper (0.25) and pstolerance (1e-50), which effectively worked with the data across all outcome variables, are summarized in Table 7. Our analysis uncovers that exposure to lifetime intimate partner violence (IPV) has statistically significant adverse effects on women's income, household income, and household expenditure. Conversely, there is a statistically significant positive impact on productivity loss associated with IPV exposure.

Table 6: Average treatment effect on the treated (ATET) of lifetime-IPV on livelihood outcomes using PSM & ESR estimator

Outcome Variable	PSM	ESR
Woman's income (n=1,035)	-372.82**	-763.8***
Household income (n= 1,905)	-929.90**	-787.4***
Household expenditure (n=2,094)	-332.95***	-737.4***
Productivity Loss (n=1,035)	16.67***	18.5***

Note: ** and *** refer to significance at 5% and 1% probability levels respectively

The Average Treatment Effect on the Treated (ATET) results suggest that women who have experienced lifetime intimate partner violence (IPV) tend to experience reductions in income, household income, and household expenditure. Specifically, on average, lifetime IPV exposure is associated with a decrease of 372.82 Birr per month in a woman's income, a reduction of 929.90 Birr per month in household income, and a decrease of 332.95 Birr per month in household expenditure. Furthermore, households with women who have been exposed to IPV generally exhibit lower levels of expenditure and income compared to households where IPV has not been reported.

Nevertheless, the result incorporating the significantly lower expenditure by households with IPV survivors should be looked at from the perspective of short-term versus long-term impact of IPV. This is because as found in this study and many previous studies (Asante et al., 2019, Chadha et al., 2020, Elmusharaf et al., 2019), violence leads to increased out of pocket costs for survivors, and therefore should increase household expenditure in the short-term. However, in the long-term, as measured by experience of IPV 'ever' in lifetime in this study and as expected, we are seeing a reduction in expenditure by households.

Through PSM analysis, we uncovered the overall productivity impact, including absenteeism, tardiness, and presenteeism, among employed women who have experienced intimate partner violence (IPV). The survey included detailed productivity-related questions for all employed women, akin to those posed to survivors reporting incidents in the past 12 months. Accepting the enduring effects of past violence on current circumstances, we deemed it crucial to assess the productivity impacts of women who have ever experienced violence. This approach expands the scope to include a broader group, given the stark contrast between the prevalence rates of women experiencing violence at any point in their lives (36%) versus current violence (21%). The findings from our PSM analysis point that employed women who have ever experienced violence exhibit a significantly higher number of productivity loss days compared to those who have not experienced violence. Specifically, these women face an average annual productivity loss of nearly 17 days, ranging from 9 to 24.4 days, with a 95% confidence interval.

The Average Treatment Effect on the Treated (ATT) from ESR model presented in Table 7 also indicates that women's experience of IPV has a significant negative impact woman income, household income, household expenditure and productivity. However, compared with the ESR model estimations, the PSM model results were lower except for household income, which might be related to the fact that PSM did not account for unobservable heterogeneity. Similar inconsistencies

between PSM and ESR results have been observed in the studies by Shiferaw et al. (2014) and Mojo et al. (2017), which also found insignificant PSM estimates, and significant ESR estimates. The Endogenous Switching Regression model is a more rigorous method for policy evaluation or program evaluation (Hu et al., 2021).

Using PSM, the study by Huamán-Delgado et al. (2016) found that women with violence have lower incomes by an average of $2601.82 (13.25% lower) compared with the group of women who are not victims whose income is $2999.34. Moreover, the study by IWPR (2017) found that health care costs for those experiencing abuse were 42% higher than the costs for non-abused women. The study by Asencios-Gonzalez et al. (2023) found that intimate partner violence against women negatively and significantly affects the workplace productivity. Duvvury et al. (2023) by measuring IPV's economic impact on labor productivity based on tardiness, absenteeism, and presenteeism found enormous productivity losses due to both the experience and perpetration of IPV in Africa and South America.

Balancing property measures the extent to which the distributions of propensity scores in the treatment and comparison groups. We conducted balance checks to assess whether, following matching, the distributions of the probability of experiencing lifetime intimate partner violence (IPV) were similar between women who had and had not experienced lifetime IPV (treated and control women). To evaluate the adequacy of balance achieved in the matching process, we utilized two statistics: standardized differences for continuous variables, defined as the weighted difference in means between IPV-exposed and non-exposed women divided by the standard deviation, and raw differences in proportions for categorical variables in the unadjusted sample (Kainz et al., 2017; Stuart, 2010), as well as the variance ratio, which measures the ratio of the sample variance of the logit values between those exposed to and not exposed to IPV (Kainz et al., 2017).

According to Stuart (2010), sufficient balance is indicated if matched women exposed to IPV and those not exposed to IPV exhibit standardized differences below 0.25 and a variance ratio close to 1.00, or between 0.50 and 2.00.

The results presented in Table 8 demonstrate that the covariates utilized in this study were effectively balanced between the two groups. The highest standardized bias observed was 0.11, and the highest variance ratio was 1.31, indicating that covariates are balanced after matching (Austin, 2009).

Table 8: Results of the Covariate Balance Tests

Variable	Standardized differences		Variance ratio	
	Raw	**Matched**	**Raw**	**Matched**
Partner education	-0.149	-0.086	0.660	0.900
Location	0.121	-0.077	1.025	1.000
Region				
Oromia	-0.285	0.047	0.639	1.108
Amhara	0.424	-0.021	1.114	1.004
SNNP	-0.224	-0.014	0.746	0.978
Women empowerment index	-0.435	-0.005	1.620	1.024
Woman employment status				
Self-employed	0.070	0.022	1.039	1.011
Unpaid family worker	-0.114	-0.029	1.007	0.999
Wealth status				
Medium	-0.341	0.005	1.157	1.000
Higher	-0.181	-0.048	0.347	0.711
Partner consumes alcohol	-0.287	0.003	1.146	1.000
Partner chews chat	-0.356	-0.033	1.691	1.034
Number of children	-0.073	-0.042	1.062	0.952
Duration of marriage	-0.020	0.076	0.971	0.987
Women education	0.086	-0.022	0.956	1.014
Number of observations	2,094	1502		
Treated observations	751	751		
Control observations	1,343	751		

3.4. Costs for Women and Households

The aggregate costs of all incidents for women and households are presented in Tables 9, 10. and 11. As Table 9 indicates, nearly 47% of survivors reported incurring an average of 2,710 Birr in costs.

Table 9: OOP Costs

	N	% of Survivors	Average Cost (Birr)*	Average Cost (USD)**	Median Cost (Birr)	Median Cost (USD)
OOP	**181**	**47**	**2,710**	**54**	**680**	**13**

*The values have been adjusted for **month-on-month** inflation until through April 2022, the latest month for which data was available. Data was sourced from https://tradingeconomics.com/ethiopia/inflation-rate-mom

**Assumed exchange rate of I USD to 50.59 Birr as of 7th February 2022, based on average buying and selling exchange rate of the Commercial Bank of Ethiopia (https://www.combanketh.et/en/exchange-rate/)

Table 10 details the results of monetised lost care work for women and their husbands/partners. Nearly 36% of survivors and 23% of survivors' husbands/partners reported missing 19 and 11 care workdays respectively.

Table 10: Loss of Care Workdays

	N	% of Survivors	Average Days	Median Days	Wage (Birr)*	Average Cost (Birr)	Average Cost (USD)	Median Cost (Birr)	Median Cost (USD)
Care Work	140	36	19	8.78	61	1159	23	536	11
Care Work-Husband	87	23	11	5.61	60	660	13	337	7

*As the minimum wage in the sample comprises of both part-time and full-time employees, median wages of women and husbands have been used to monetise care work. The monthly wage was converted to hourly wage and then multiplied by respective no of care work hours of women and men to give a care work wage day. Individual women's wages have been employed for productivity loss.

Table 11 below provides the unit cost estimates for women's income, income loss for households, expenditure loss for households and productivity loss.

Table 11: Income, Expenditure and Productivity Loss for Women and Households*

Category of Loss	Annual Unit cost (Birr)*	Annual Unit cost (USD)**
Women's Income Loss	4475	88
Income loss of Households with IPV	11,850	234
Expenditure loss of Households with IPV	3393	67
Productivity loss***	1272	25

4.   Discussion

This study highlights the substantial economic implications of intimate partner violence (IPV) for women, households, and the Ethiopian economy. Initially, this study estimated that almost 36% of women have experienced IPV at some point in their lives ('ever'), with 21% experiencing IPV within the past 12 months ('current'). These figures closely align with the prevalence rates reported in the 2016 Ethiopian Demographic and Health Survey (EDHS), underscoring the persistent nature of this issue in Ethiopia. IPV is deeply intertwined with gender inequality, revealing a notable disparity despite Ethiopia's commendable economic strides towards achieving the Millennium Development Goals (MDGs). Despite being the most improved country in the 2020 Global Gender Gap Index by closing 70.5% of its gender gap, Ethiopia experienced a setback of 15 points in 2021 (World Economic Forum, 2021). This setback is evident in areas such as women's employment, where labour force participation favours men (86.7% vs. 76%), and women are underrepresented in skilled positions (29.9%) and senior roles (26.5%). Moreover, Ethiopia has yet to bridge over 50% of its gender gap concerning income and wages. These challenges point to the ongoing and consistent barriers women face in achieving economic parity and highlight the urgent need for targeted interventions to address IPV and gender inequality effectively. Unless IPV in Ethiopia is comprehensively addressed, gender inequality will continue to pose substantial problems for women's empowerment and status in society.

However, we also found that working women had a greater prevalence rate of lifetime violence at almost 38%, which like other studies suggests that work may indeed be a risk factor for violence (Alzahrani et al., 2016; Deribe et al., 2012; Hjort

and Villanger, 2012). This is an area in need of further examination, as the literature is inconclusive, with some studies establishing the opposite trend (Gebrewahd, et al., 2020; Gelles, 1997; Bhattacharya et al., 2011). It would seem that the complexity involved stems from the influence of additional factors, such as the man's working status and his adherence to traditional gender norms (Macmillan and Gartner, 1999; Atkinson et al., 2005).

Moreover, the negative impact of IPV on women's work, both paid an unpaid, is clear. One of the most significant costs established by this study is the cost of unpaid domestic household and care work. On average, survivors missed 19 care workdays due to IPV and husbands/partners of survivors missed 11 care workdays. Previous research has also established a similar loss of household and care work (Chadha et al., 2020; ESCWA, NUI-Galway and MOWA, 2021). However, few studies have focused on the impact of IPV perpetrated by men against their wives on the unpaid domestic household and care work of these men. By establishing an estimate of such loss, the current study expands our knowledge base. Working women experiencing lifetime violence had a productivity loss of almost 17 days. While some previous studies (Asante et al., 2019; Elmusharaf et al., 2019; Ghaus et al., 2019) have attempted to estimate productivity loss for survivors, we believe this study's results to be more robust due to the PSM analysis.

Furthermore, utilizing Propensity Score Matching (PSM) analysis, backed by ESR analysis, we identified that women who have survived intimate partner violence (IPV) experience notably lower income compared to their counterparts. This finding aligns with previous studies conducted by Morrison and Orlando (2004) and Duvvury et al. (2012). Our research also reveals that IPV contributes to reductions in both household income and household expenditure. These outcomes collectively result in diminished social well-being, heightened income insecurity, and negative ripple effects for the economy at large.

The study also points to a significant drain of household resources due to OOP expenses which survivors incur. Nearly, one in three incidents led to some form of OOP costs, with an average cost of 2,349 ETB, which approximates to **15% of the per capita annual food expenditure in Ethiopia**. Previous studies in other African countries, Ghana (Asante et al., 2019) and South Sudan (Elmusharaf et al., 2019) have also established a similar significant drain on household resources. Given Ethiopia's goal of eradicating poverty, this finding provides an important insight into measures to be taken concerning the prevention and response to IPV.

Both community-based activism interventions, with the goal of shifting harmful gender attitudes, roles, and social norms, as well as interventions focusing

on gender transformation and economic empowerment, could be implemented in Ethiopia. Some examples of evidence-based community activism interventions include Indashyikirwa in Rwanda (Chatterji et al., 2020) and the Rural Response System (RRS) in Ghana (Ogum Alangea et al., 2022). Similarly, evidence-based gender transformation and economic empowerment interventions encompass programs such as Stepping Stones and Creating Futures in South Africa (Gibbs et al., 2019) and Zindagii Shoista in Tajikistan (Mastonshoeva et al., 2022),

5.   Conclusions and Recommendations

This study highlights the substantial costs of IPV for women, households, and the economy of Ethiopia. While there is no doubt that IPV is a violation of human rights; however, as this study highlights, it is also an economic problem. By monetising the impact of IPV, this study points to the need of expanding efforts to avert IPV to safeguard the economic health of Ethiopia. This is especially true in the current vulnerable economic environment, where we are still coping with the after-effects of COVID-19 as well as the ongoing Russia-Ukraine war. We recommend that the government builds gender-based violence (GBV) prevention and response into national policies and budgets and increase the efforts to address and prevent gender-based violence, including by mainstreaming evidence-based violence prevention and response approaches into health, education, social protection and other sectors. We also strongly recommend devoting particular attention to IPV in overall GBV programming and training, as the present response is largely focused on GBV, and in particular, sexual assault. Finally, there is also a need to integrate the impacts of IPV into macroeconomic and social planning and policies.

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Annexure

Table 1: Different Violence Behaviors Covered in Ethiopia Violence Survey 2021

Refuses to give you enough money for household expenses even though he has enough money to spend on other things
Asks for details about how you spent your money
Withdraws money from your account or credit card without your permission
Forces you to work
Forces you to quit your work
Prevents you from working
Tries to exploit properties (use properties/ sell and use the income from the sale of properties) you inherited from your family without your permission?
Disposes of your belongings without your permission
Restricts your connections/relations with your first-degree relatives
Prohibits you from going out with your female neighbors
Try to prevent you from meeting your female friends
Throws something at you, which can be harmful
Twists your arm or pull your hair
Assaults you, causing bruises, scratches, minor wounds and/or joint pain
Pushes you hard
Hits you with less dangerous tools, i.e. belt, stick …etc
Suffocates you or try to suffocate you
Holds you tight while attacking you
Tries to attack you with a knife, axe, shovel or any other dangerous tool
Hits you on the head, leading to unconsciousness
Slaps your face
Attacks you, resulting in you breaking one or more of your bones
Burns your skin on purpose
Physically forces you to have sexual intercourse when you do not want to
Use threats or intimidation to get you to have sexual intercourse when you did not want to
Physically forces you to do other sexual acts that you do not want to do
Uses threats or intimidation to get you to do other sexual acts that you do not want to do

Table 2 below shows the items used to measure productivity loss for survivors, with the respective weights. A weight of 1, for example, implies that the workday is counted as a full day, whereas a weight of 0.125 implies that one day is measured as one-eighth of a workday.

Table 2: Productivity Loss Items for Survivors

Type	Weights
Absenteeism	
Missed work because you had to seek medical treatment	1
Missed work because you had to attend legal services (e.g, family counselling)	1
Missed work because you had to visit police stations	1
Missed work because you were unwell	1
Missed work because you had to take care of your child/children	1
Missed work because you stayed with friends or family	1
Presenteeism	
Was not as productive at work as you normally would be	0.25
Had difficulties dealing with clients and/or customers	0.25
Had to stop working because you were worried	1
Had to stop working because you had an accident at work	2
Tardiness	
Late for work by 1 hour or more	0.125
Left work early by 1 hour or more	0.125

Source: Authors' own based on Ethiopia Violence Survey 2021 & Duvvury et al. 2020