



Intimate Partner Violence and Health: Can Resilience Mitigate the Effect?

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Foreword IPV Study

Intimate partner violence (IPV) is a critical and widespread public health concern. It encompasses physical, sexual, emotional, and financial abuse perpetrated by a current or former partner. IPV occurs at varying degrees in all countries across cultures, religions, and socioeconomic backgrounds, affecting women predominantly. One in three women worldwide has experienced physical and/or sexual partner violence. Globally, 27% of ever-partnered women between 15 and 49 years of age have known physical or sexual violence, or both, from an intimate partner at least once in their lifetime. The magnitude of the problem among adolescents, especially girls and young women, is also significant.

According to the World Health Organization (WHO), IPV levels vary across regions due to an array of cultural, economic, social, and religious factors, with the highest prevalence being in low- and middle-income countries, namely Africa, the Eastern Mediterranean, and the South-East Asia regions. Surveys in the Arab world demonstrate that one out of three women is physically beaten by her husband. In addition to the factors identified above, IPV rates increased noticeably during the COVID-19 pandemic, exacerbated by lockdown and imposed social isolation.

IPV can lead to major short- and long-term physical and mental health effects, including injuries, sexually transmitted infections, substance abuse, depression, and unwanted pregnancies, even death. However, resilience through social support and tertiary preventive interventions have been linked to empowering women and assisting them in moving on from abusive situations. Hence, fostering resilience aids women in overcoming adversity, ending the cycle of violence, and promoting good health.

As of 2019, Lebanon has been facing an unprecedented multidimensional political, economic, and social crisis that has aggravated violence, specifically gender-based violence, including IPV. In Lebanon, data on IPV is lacking, making it difficult to assess its prevalence, levels, forms, and factors. In addition, literature is scarce worldwide, and more so in Lebanon, on the linkages between IPV, resilience, and health outcomes of IPV survivors. Therefore, there is a pressing need to address this gap by exploring the effect of resilience on certain health outcomes among IPV survivors.

The findings of the research aim to help improve the care of IPV survivors in Lebanon by promoting resilience, improving the mental well-being and reproductive health of survivors, and their ability to have informed decisions.

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Abstract

Intimate partner violence (IPV) is a major public health issue, and the association between IPV and poor health outcomes is well documented in research. However, the relationship between resilience and the health of IPV survivors has not been adequately studied and there is an important gap in the literature in the identification of factors that may strengthen resilience in violence survivors. In the current study, we aim to address this research gap by exploring the effect of resilience on certain health outcomes (namely: healthcare utilization, perception of health, mental wellbeing as anxiety and depression, and reproductive health as menstrual problems) among women exposed to IPV.

In this quantitative cross-sectional study, a questionnaire was administered by phone to 242 married women between 18 and 45 years of age and known to be exposed to IPV. Most of the sample were Lebanese (139, 57.4%) or Syrian (91, 37.6%). The participants scored 6.9 ± 13.8 on violence as measured by the composite abuse scale. A total of 80 participants (33.1%) did not disclose or seek assistance for violence. Overall, more physical abuse was disclosed among non-Lebanese than Lebanese. There was more sexual abuse disclosed by participants living in the city than in rural or refugee camps. The participants scored 58.0 ± 17.5 on the CD-RISC 25 resilience scale. There was a positive association between resilience and age, personal income, and place of residence. Resilience was negatively associated with crowding index, depression, anxiety, PHQ-15, and PTSD. Moreover, resilience was negatively associated with food and clothes insecurity, feeling safe, and community support. The Sobel test confirmed that resilience significantly mediates the relationship between violence and health ($Z = 3$).

The findings of the study can help advance the field of violence research by its identification of potential protective variables related to resilience that would help improve the care of IPV survivors. It can also help in providing better care for violence survivors by strengthening their resilience. Developing strength-based interventions for violence-exposed women, by promoting resilience, may improve the mental wellbeing and reproductive health of the survivors as well as their ability to have an informed decision.

E- Introduction

Intimate partner violence (IPV) is an abuse of power committed by a romantic partner in a relationship or after separation. It takes several forms, such as emotional abuse, physical and/or sexual violence, intimidation and threats, and social or economic deprivation [1]. It is a public health problem with severe consequences for a high proportion of women around the world [2]. According to a WHO report in 2013 [3], over one in three women worldwide have experienced physical and/or sexual partner violence, or sexual violence by a non-partner. IPV levels vary in different regions due to a variety of cultural, economic level, social system, and religious reasons, with the highest prevalence in Africa, the Eastern Mediterranean and the South-East Asia Regions, followed by the Americas. High-income regions, the European and the Western Pacific Regions have a relatively low prevalence [3].

Surveys in the Arab world show that one out of three women is beaten by her husband [4]. In Lebanon, few studies have been previously published exploring the prevalence of violence against women [4,5,6]. Authors identified, among large sample sizes, rates up to 35% of overall domestic violence (in 2002) [6], 37.1% of physical violence and 49.4% of non-physical violence (in 2020) [5].

Several factors were associated with abuse including lower educational status, higher level of anxiety and pre-existing psychiatric conditions [5].

During the current pandemic, several international organizations have documented an increase in IPV reports [7]. During the lockdown, there was social isolation, a risk factor for IPV [9]. In addition, social support and community cohesion, two key factors in promoting resilience in IPV survivors, were absent [8]. The cross-sectional study done by El-Nimr et al documented that the prevalence of IPV exposure was noted to be increasing after the COVID lockdown among Arab women, with psychological IPV being the most common form [10]. In Lebanon, according to Kafa, a nongovernmental organization (NGO) [11] that deals with eliminating gender-based violence, the number of calls to their helpline doubled within a month since the lockdown started, with six cases of mortality of abused female victims recorded. Abaad, a not-for-profit organization, also reported that home violence complaints had doubled over the first months of 2020 compared to one year prior (reaching 500 versus 270 in the same period of 2019) [12]. However, these numbers underestimate the full extent of DV and IPV as women are afraid to report due to social censure, inability to report without their abuser knowing, and having nowhere to go during the lockdown [12].

Given the abovementioned figures for IPV in Lebanon, IPV remains an underestimated problem in the country and has been largely ignored by the local authorities [4]. The Lebanese healthcare system has failed so far to play a proactive role in identifying and referring abused women, mostly because the recognition of an abusive pattern in women is often blurred by cultural and societal taboos [6].



Literature has clearly shown that IPV has significant negative physical and psychological consequences on the victims. IPV puts women at risk of experiencing body injuries, such as contusions, broken bones, and life-threatening wounds [14,15]. On the psychological level, victims of IPV are at increased risk of multiple psychiatric problems including post-traumatic stress symptoms, depression, and anxiety [14,15,16]. A Systematic review of articles from 2012 through 2019 showed the negative effects of IPV on the physical wellbeing of women like “worsening the symptoms of menopause and increasing the risk of developing diabetes, contracting sexually transmitted infections, engaging in risk-taking behaviors including the abuse of drugs and alcohol, and developing chronic diseases and pain” [17]. IPV during pregnancy was also associated with significant pregnancy complications in the mother such as vaginal bleeding, infections and gestational diabetes [18], in addition to maternal mental health adverse effects [19]. On the unborn infant, effects include low birth weight, preterm labor and infant death [18].

Exposure to IPV may also increase parenting stress and foster risky behavior, compromising healthy child development [20]. On the economic level, IPV survivors are frequent users of the healthcare system, seeking care from emergency departments or clinics three times more often than baseline. One report estimated that IPV survivors generated 92% more healthcare costs [21]. The impact of COVID-19 on survivors of abuse included mental health and economic burden [22]. Symptoms of mental health interfered with their daily life, and stressors were mainly related to issues of access to social support and issues of safety. There are socioeconomic consequences for the survivors, specifically financial hardship and difficulty obtaining food [10,22].

The literature shows that social support and other tertiary preventive interventions can mitigate long-term health and mental health outcomes from IPV [23]. Effective tertiary preventive interventions can empower women and help them move forward from their abusive situation [24]. Since resilience is the most common human response to trauma [25], there may be a benefit to considering a resilience framework that takes a “salutogenic” approach: that is, an approach that focuses on factors that support health and wellbeing, rather than focusing solely on factors that cause or predict disease or poor outcomes [26].

Resilience is the ability to overcome adversity, resulting from the interplay between risk and protective factors, rooted in interconnected systems, such as the individual, family, community, and culture [27]. From a socioecological perspective, “resilience is the ability of individuals (on their own and collectively) to navigate the culturally relevant resources they need to do well when confronting adversity, as well as their capacity to negotiate for these resources to be provided in ways that are meaningful” [28, p. 40]. In their recent study with victims of IPV, Brosi and colleagues [29], found that women were more likely to show resilience and posttraumatic growth when they changed their life perspective, had access to social support, and were motivated to end the cycle of violence for their children.



The relationship between resilience and health has not been adequately studied and is starting to gain attention recently. In general, resilience was found to be related to better physical and mental health outcomes [30]. The onset of mental health disorders such as PTSD is inversely related to the individual's resilience [31]. Good resilience impedes the onset of illness and promotes good health [31]. Anxiety scores among healthcare workers caring for COVID-19 patients were found to be lower in those who scored higher on resilience [32]. Resilience in victims of IPV was an important determinant in reducing the likelihood of suicide in a study conducted in Iran in 2016 [33]. Studies conducted with IPV-exposed women in the United States have found resilience to be related to lower levels of physical (i.e., somatic) and psychological distress [34], and specifically lower levels of depression, anxiety, anger, and stress [35]. Scrafford et al concluded that clinical interventions targeting prenatal mental health and relational resilience may help improve labor outcomes for IPV-exposed mothers [19].

Yet, according to McNaughton and colleagues [36], the literature still has an important gap in the identification of factors that may buffer the impact of IPV and strengthen resilience in victims. There is scant research on interventions promoting resilience and their effect on health. The relaxation, response and resiliency program, a program targeting the body and mind, teaches self-care strategies in an outpatient setting [32]. It has been studied as an intervention to promote resilience in a variety of conditions and populations such as older females with HIV, patients with headaches and mental health, and patients with cutaneous neural conditions [32,37,38]. Women with HIV face stigma in society, in addition to illness-related stressors. In an open pilot study in older female patients with HIV, the relaxation response resiliency program implemented was greatly accepted by the participants. Highly satisfied, they reported that the intervention taught them new tools including breathing exercises and meditation to cope with stressors. There were also lifestyle changes such as increased physical activity and decreased alcohol consumption [37]. In patients with headache and musculoskeletal pain, the relaxation response and resiliency program showed a significant improvement in all mental health symptoms and a decrease in the frequency of the pain and physical symptoms [38]. Healthcare utilization was also studied following an intervention to improve resilience. The intervention group was found to have a substantial decrease in healthcare utilization, reflected by a significant decrease in imaging, lab encounters and emergency department visits [39].

Interventions promoting resilience may include mindfulness, cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT) and health coaching interventions [40]. These methods were shown to be effective in promoting resilience and improving mental health and performance [40]. Shorter interventions can include self-affirmation, which is established to reduce stress and rumination [41]. The self-affirmation intervention has been studied in a population of Indians with depression. They were instructed to write down phrases of affirmations daily, and resilience was measured before and after the intervention. There was an improvement in resilience in the participants in the intervention arm [41].



Given the existing literature on the positive direct effects of emotional support and resilience on health, and on IPV, it is possible to assume that resilience may play a role in mitigating the effect of IPV on the health of survivors. There are very few studies in the literature connecting these three ideas and studying the effect of resilience on health in IPV survivors. Hence, interventions targeting resilience are expected to be effective in improving health outcomes, be they physical or psychological.

In the current study, we aim to address this research gap by exploring the effect of resilience on certain health outcomes (namely: healthcare utilization, perception of health, mental wellbeing as anxiety and depression, and reproductive health as menstrual problems) among women exposed to IPV. The hypothesis is that IPV-exposed women who score high on resilience will have a better perception of their health, better mental wellbeing and less utilization of healthcare services, as compared to women who score lower.

The findings of the research would help improve the care of IPV survivors: by promoting resilience, the mental wellbeing and reproductive health of the survivors may be improved as well as their ability to have an informed decision.

F- Methods

This is a quantitative cross-sectional study where a questionnaire was administered by phone to 242 currently married women between 18 and 45 years of age and exposed to IPV.

Sample selection

Several NGOs known to be involved in domestic violence response were contacted and requested to participate in the research. The contact was facilitated by UNFPA through a letter requesting NGOs to help in recruiting participants. The NGOs were asked to seek the approval of women who used their services in the past two years to participate in the research. The inclusion criteria were married women living in Lebanon aged 18-45 years and are not currently pregnant nor have delivered in the past 6 months. The NGOs will then provide the research team with a list of potential participants that comprise the age, preferred name to be used during data collection, place of residence, number to be called and the best time to make the call. Consenting women were then contacted via direct phone calls by trained data collectors. The NGOs who collaborated were Kafa, Amel, Abaad, Lecorvaw, Nabad and Tahaddi. The intended sample size was 200 but as some of the organizations were late in providing their list, the sample had to be increased to accommodate them.

The tool

A questionnaire was developed in Arabic and included the following sections:

- a- Demographics:** Respondent's age, education, working status, income, number of children, living conditions (location and crowding index), nationality, smoking status,

exercise, alcohol intake, age at marriage and duration of the marriage, and spouse information (age, education, work, smoking status, exercise, alcohol use, health status).

b- Health status of the respondent (outcomes variable):

Respondents were asked about their perception of their health status using a Likert scale ranging from very bad to excellent, their utilization of healthcare services in the past 6 months and for what reason, and about their use of family planning methods. In addition, several scales were used to measure:

- Somatic symptoms: The PHQ-15 was used. The PHQ-15 is a 15-item questionnaire used to screen for somatic symptoms, each symptom scored from 0 (“not bothered at all”) to 2 (“bothered a lot”). PHQ-15 scores of 5, 10, 15, represented cut-off points for low, medium, and high somatic symptom severity, respectively [42]. This questionnaire has been used in different populations, such as Syrian refugees and a Chinese population in a Chinese tertiary hospital, showing high validity [43,44]. Five items were added, using the same scale, to the PHQ-15 to assess reproductive health specifically, symptoms related to reproductive tract infections, dysmenorrhea and abortions.
- Mental wellbeing was assessed using PHQ-9 for depression, GAD-7 for anxiety, and TS40 for post-traumatic stress disorder (PTSD). The PHQ-9 and GAD-7 were validated in Arabic in a sample of the Saudi Arabian population [45].
 - The PHQ-9 was developed by Drs. Robert L. Spitzer, Janet W.B. Williams and Kurt Kroenke in 1999. It consists of 9 items that measure depression symptoms in the preceding 2 weeks. The Likert score is used ranging from 0 (never), 1 (some days), 2 (more than half the days), and 3 (nearly every day). A total of 0 to 4 means no depression, whereas 5-9 means depression is considered mild, 10-14 moderate, 15-19 moderately severe, and 20 to 27 depression is considered severe (10). It has been verified in the Arabic language and validated to screen for depression in the primary care setting [46].
 - GAD-7 is a free tool to measure anxiety translated into many languages including Arabic. The GAD-7 scale has 7 questions, using the Likert method, rated from 0 to 3 with 0 indicating not at all, 1 several days, 2 more than half of the days, and 3 almost every day. The total sum of the questions categorizes individuals into levels of anxiety. Following the GAD-7 guidelines, the anxiety score was divided into 4 categories: minimal (0–4), mild (5–9), moderate (10–14), and severe (15–21) anxiety [47]. It was used in a study measuring resilience in healthcare workers in Lebanon [48].

- TSC40, developed by Briere, consists of 40 questions, measuring symptomatic distress in adults arising from childhood or adult traumatic experiences. The checklist targets symptoms present for the past 2 months, using a 4-point frequency rating scale from 0 (never) to 3 (often), with a total score ranging from 0 to 120. It has six subscales: Anxiety, Depression, Dissociation, Sexual Abuse Trauma Index, Sexual Problems, and Sleep Disturbances [49]. This scale has reliability and validity in children for screening for abuse and PTSD [50] and its 33 version has been used among Lebanese medical students [51].

- c- Resilience (outcomes variable)** was measured using the Connor Davidson resilience scale (CD-RISC). The resilience scale has 25 questions, scored through the Likert scoring system from 0-4 (never, rarely, sometimes, most times and all the time). This questionnaire was translated into Arabic and its validity was measured on a population of Lebanese women in a study by Bizri et al in 2022 [52]. It was also used in research on healthcare workers in Lebanon [48], and on critical care nurses [53].

- d- Intimate partner violence (IPV)** related information: which included exposure to IPV and help-seeking.
 - Exposure to IPV was measured over the past year on the composite abuse scale (CAS), where women would report on their current or past experience with IPV, with yes or no answers, and then if yes would rate frequency using the 4 points Likert scoring system (not in the past year (0), once (1), sometimes (2), monthly (3), weekly and almost daily (4)). CAS has four aspects: Severe Combined Abuse, Emotional Abuse, Physical Abuse, and Harassment. It was translated from English to Arabic in 2013 using a multi-method approach [56]. The reliability and validity of the Arabic version of the composite abuse scale were assessed in an Arabic-speaking population in Saudi Arabia [57]. It has been used in different populations including pregnant females to assess IPV in Australia [58].
 - Help-seeking behavior was assessed by asking women who disclosed exposure to violence whether they sought help and from whom. Reasons for not seeking help were asked in case they didn't.

- e- Life stresses** respondents were asked to rate on a 3 points Likert scale ranging from 0 (not a problem) to 2 (major problem) several daily life concerns (availability of food, medication, clothes, healthcare services, medications, community support, and dealing with covid).

Statistical analysis



Descriptive data of the demographics and health-related variables were performed using mean and standard deviation for normally distributed variables and proportion for categorical variables. The median was used for the income variables as the data was not normally distributed. Health status was operationalized by the question related to the perception of health with a 4-Likert scale. Simple linear regressions were performed to assess the association between pairs of violence, resilience, and health. Then, the Sobel test was used to measure whether resilience is a mediator in the relationship between violence and health. Regarding the associated factors of resilience, one-way ANOVA was used for categorical variables and Pearson correlation for continuous variables. IBM SPSS Statistical Software 24 was used for data analysis. P-value was set at 0.05.

G- Results

C.1- Description of sample

A total of 242 participants completed the survey. Table 1 shows the demographics. Participants were on average 34.9 ± 7.8 years old, had been married 12.9 ± 7.6 years, and almost all had children (231, 95.5%). The family's median monthly income was 3,000,000 LL; the minimum wage was 675,000 LL. Most of the sample were Lebanese (139, 57.4%) or Syrian (91, 37.6%). Most husbands worked (191, 78.7%), while only 36% (n=87) of the participants worked.

Table 1: Demographics

	Mean \pm SD
Age (years)	34.9 \pm 7.8
Age when she got married (N=242)	21.7 \pm 6.2
Years of marriage (N=241)	12.9 \pm 7.6
Have kids (N=242)	231(95.5)
Number of kids (N=229)	3.1 \pm 1.8 (min=1; max=10)
Age of the younger child (N=230)	6.3 \pm 4.9 (min=0.5; max= 33)
Age of the eldest child (N=193)	13.7 \pm 6.6 (min 1, max 37)
Crowding index	2.2 \pm 1.2
	Median (min, max)
Female monthly Income (N=72)	3,000,000 LL (3,500,000, 40,000,000)
Husband monthly income (N=100)	3,000,000.0 LL (500,000, 80,000,000)
Family monthly income (N=137)	3,000,000.0 LL (300,000.0,

	90,000,000)
Educational level of the participant (N=242)	
Illiterate	8(3.3)
Reads and writes	4(1.7)
Elementary	64(26.4)
Intermediate	71(29.3)
High school/technical	54(22.3)
College	41(16.9)
Educational level of the husband (N=241)	
Illiterate	18(7.5)
Reads and writes	9(3.7)
Elementary	68(28.2)
Intermediate	67(27.8)
High school/technical	41(17.0)
College	36(14.9)
Don't know	2(0.8)
Current Living Location (N=242)	
Beirut	49(20.2)
Mount Lebanon	28(11.6)
Akkar	1 (0.4)
Bekaa	31(12.8)
Baalbek	3(1.2)
North Lebanon	108(44.6)
Nabatieh	6(2.5)
South Lebanon	16(6.6)
Type of current living location (N=242)	
City	142(58.7)
Rural	73(30.2)
Refugee camp	27(11.2)
Religion (N=242)	
Druze	4(1.7)
Muslim	179(74.0)
Christian	24(9.9)
Nationality (N=242)	
Lebanese	139(57.4)
Syrian	91(37.6)
Others	12(5.0)
Working status (N=242)	
Yes	87(36.0)
Type of work (N=87)	
School teacher	12(13.8)
Office work	18(20.7)
House worker	29(33.3)

Freelance	16(18.4)
Others (healthcare)	12(13.8)
Working status of the husband (N=242)	
Yes	191(78.7)
Type of husband work (N=189)	
School teacher	4(2.1)
Office work	18(9.5)
House worker	81(42.9)
Freelance	52(27.5)
Others (healthcare)	34(18.0)

More husbands were reported to be smoking, consuming alcohol, and having a chronic disease, while more participants reported exercising (Table 2).

Table 2: Health status and social habits of the participants and their husbands

		Participant	Husband
Smoking status*		83(34.4)	156(65.5)
		Female	
Type of smoking		N=83	N=156
Cigarettes		35(42.2)	120(76.9)
Hubble bubble		48(57.8)	30(19.2)
Illegal drugs		-	6(3.8)
Alcohol status*		19(7.9)	54(22.4)
Alcohol use at increased risk for harm		0	25(10.3)
Exercise status*		76(31.5)	44(18.3)
Presence of chronic disease*		93(38.4)	136(56.4)
No. of chronic diseases		0.9±1.0	0.8±1.0
Use of tranquilizers and painkillers**			
Pain killers		10(4.2)	9(3.7)
Sleeping pills		116(48.3)	93(38.6)
Antidepressants anti-anxiety medications		10(4.2)	8(3.3)

** more than one answer allowed

* missing values exist

C.2- Health status of the participants

Table 3 shows the health status of the participants. Nearly half of the participants reported suffering from severe anxiety or depression. However, only 10 participants (4.2%) reported taking antidepressants or anti-anxiety medication, while 116 (48.3%) reported taking sleeping pills. Most participants rated their health status as average to poor over the preceding 6 months.



On average, they had visited the doctor 2.4 ± 3.9 times and other health professionals such as the pharmacist or the nurse on average 3.7 ± 9.8 times. Regarding their sexual health, 50% had used contraception within the past six months; forty-four (36.9%) used natural or coitus interruptus methods. The most common reason for not using contraception was the husband's absence, whether she was divorced, separated, widowed, or he was traveling or missing. The participants reported a variety of acute gynecologic and sexual complaints. Nearly half of the participants (113, 46.7%) reported frequent menstrual pain. Ninety participants (38%) reported occurrences of sexual problems ranging from a few times to lots of times. Twenty-one participants (8.7%) reported having an abortion within the previous four weeks.

Table 3: Health status of the participants

Perception of health status in the 6 months			
Excellent		4(1.7)	
Good		46(19.0)	
Average		101(41.7)	
Poor		91(37.6)	
Healthcare Utilization			
Doctor visit		2.4 ± 3.9	
Laboratory tests		0.7 ± 0.9	
X-ray tests		0.3 ± 0.5	
Other healthcare professionals		3.7 ± 9.8	
Emergency room		0.3 ± 0.7	
Hospitalization		0.1 ± 0.3	
PHQ-15		14.05.5	
GAD7			
No anxiety	21(8.8)		
Mild anxiety	47(19.7)		
Moderate anxiety	49(20.5)		
Severe anxiety	122(51.0)		
PHQ9			
No depression	20(8.3)		
Needs clinician attention	97(40.4)		
Needs antidepressants	123(51.2)		
Use of contraception in the past 6 months	119(49.4)		
Contraception method (N=119)			
Pills	18(15.1)		
IUD	44(37.0)		
Coitus interruptus	31(26.0)		
Condom	11(9.2)		
Natural	13(10.9)		

Tubal ligation	2(1.7)		
Reasons for not using contraception (N=119)			
Wants to be pregnant	13(10.9)		
Husband does not prefer contraception	13(10.9)		
Infertility	9(7.6)		
Amenorrhea	5(4.2)		
Breastfeeding/pregnant	7(5.9)		
No sexual relationship	8(7.6)		
Divorced/separated/widowed/traveling	64(53.8)		
Gynecologic Sexual Acute Complaints (N=242)	Never	Few times	Lots of times
Menstrual pain	56(23.1)	73(30.2)	113(46.7)
Sexual problems	147(62.0)	60(25.3)	30(12.7)
Menstrual problems	112(46.3)	65(26.9)	65(26.9)
Pelvic pain	115(47.5)	93(38.4)	34(14.0)
Vaginal secretions	116(47.9)	66(27.3)	60(24.8)
Dysuria	168(69.4)	56(23.1)	18(7.4)
Abortion in the past 4 weeks (N=242)	21(8.7)		

As for PTSD, the participants scored 49.5 ± 21.0 out of 120 points on the Trauma Symptom Checklist-40. They scored highest on the trauma subscales of anxiety and depression (Table 4).

Table 4: PTSD status of the participants as measured by the Trauma Symptoms Checklist (TSC-40) (N=242)

	Mean \pm SD	Maximum score
Total score	49.5 ± 21.0	120
Subscales		
Dissociation	7.1 ± 4.0	18
Anxiety	12.7 ± 5.9	27
Depression	11.3 ± 5.3	27
Sexual Abuse Trauma	6.5 ± 4.0	21
Sleep disturbances	7.1 ± 3.2	18
Sexual Problems	8.4 ± 4.3	24

A bivariate analysis using One-way ANOVA was conducted to explore associated factors with PTSD (Table 5). There was an association between PTSD and religion (p -value <0.0001). Muslims had higher scores than Christians (53.0 ± 19.8 vs. 28.3 ± 17.8). PTSD was associated with the governorate (p -value <0.0001), and nationality (p -value = 0.118) but not with the location of residence (p -value = 0.449). The highest PTSD scores were in Nabatiyeh (52.0 ± 14.7) and the least scores were in Beirut (34.4 ± 17.6) and Mount Lebanon (38.2 ± 21.3). Non-Lebanese scored higher on PTSD than Lebanese (56.5 ± 17.7 vs. 45.0 ± 21.9). PTSD was positively associated with both anxiety and depression. Working participants and those with a college education scored the lowest on PTSD. Exercise rather than smoking was associated with lower scores.

Table 5: PTSD and its associated factors

	Total score (max score 210)	p-value
Total sample	49.5 \pm 21.0	
Religion		<0.0001
Muslim	53.0 \pm 19.8 ^a	
Christian	28.3 \pm 17.8 ^a	
Druze	50.2 \pm 16.1	
Participant Education		<0.0001
Illiterate	41.6 \pm 16.5	
Reads and writes	42.2 \pm 10.8	
Any school level	52.7 \pm 20.7	
College level	38.0 \pm 19.6	
Husband Education		0.001
Illiterate	58.9 \pm 18.0 ^a	
Reads and writes	50.9 \pm 22.3	
Any school level	51.2 \pm 21.1 ^b	
College level	37.3 \pm 17.0 ^{ab}	
Participant Works		<0.0001
Yes	41.7 \pm 19.6	
No	53.7 \pm 20.6	
Smoking		0.493
Yes	46.5 \pm 22.2	
No	51.1 \pm 20.2	
Exercise		0.030
Yes	45.2 \pm 23.5	
No	51.7 \pm 19.5	
Depression		<0.0001
No depression	20.2 \pm 10.7	
Possible depression	39.8 \pm 17.1	
Needs treatment	61.6 \pm 15.7	
Anxiety		<0.0001

No anxiety	23.0±4.4 ^{ab}	
Mild anxiety	32.6±15.5	
Moderate anxiety	45.4±15.4 ^a	
Severe anxiety	62.3±15.9 ^b	
Nationality		0<0.001
Lebanese	45.0±21.9	
Non-Lebanese (Syrian, Palestinian, others)	57.5±17.7	
Location of residence		0.449
City	48.0±22.2	
Rural	52.0±20.0	
Refugee Camp	50.2±16.5	
Governorates		<0.001
Beirut	34.4±17.6	
Mount Lebanon	38.2±21.3	
Akkar (1 person)	78.0	
Bekaa	53.5±22.2	
Baalbek -Hermel	57.0±28.6	
North Lebanon	56.6±18.2	
Nabatieh	60.3±16.5	
South Lebanon	52.0±21.0	

C.3- Social and living status

Forty-five percent of the participants had serious problems with food and clothes security, lack of community support, and inaccessibility to healthcare and medications (Table 6). The problems were most pronounced in Mount Lebanon and least in Beirut. Access to medications was the same in all governorates and locations. Community support was the least in refugee camps followed by villages.

Table 6: Social and living problems of the participants (N=242)

	No problem	Somewhat a problem	Serious problem	Prefer not to answer
Food security	62(25.6)	90(37.2)	83(34.3)	7(2.9)
Clothes/blankets/shoe security	58(24.0)	72(29.8)	107(44.2)	5(2.1)
Access to healthcare	37(15.3)	89(36.8)	112(46.3)	4(1.7)
Access to medications	42(17.4)	75(31.0)	121(50.0)	4(1.7)
Feeling safe (weapons, violence, crime)	80(33.2)	64(26.4)	96(39.8)	2(0.8)
Taking care of dependent family members	112(46.3)	66(27.3)	62(25.6)	2(0.8)

(children or elderly)				
Community support	56(23.1)	81(33.5)	103(42.6)	2(0.8)
Dealing with COVID	183(75.9)	39(16.2)	17(7.1)	3(1.2)

C.4- Exposure to intimate partner violence and help-seeking behavior of the participants

The participants scored 6.9 ± 13.8 on violence as measured by the composite abuse scale subscale 2.1 ± 2.4 out of 10 points and the physical subscale 4.0 ± 4.3 out of a total of 20 points. A total of 80 participants (33.1%) did not disclose or seek assistance for violence. The 157 participants sought help from close family (94, 59.9%), societies (54, 34.4%), friends (40, 25.5%), healthcare professionals (18, 11.5%), extended family (15, 9.6%), police (11, 7.0%), work colleagues (3, 1.9%), and others (16, 10.2%). Reasons for not asking for help included self-reliance to solve the problem (23, 28.7%), private life (22, 2.5%), normal partner problems (19, 23.8%), shame (17, 21.3%), belief that no one can help (14, 17.5%), not considered serious (6, 7.5%), thinking about it but not decisive (5, 6.3%), and others (19, 23.8%).

A bivariate analysis was conducted to determine the factors associated with abuse (Table 7). Abuse was associated with religion (highest among Druze) and governorates (highest among Baalbek Hermel). Table 7 presents the scores of violence and subscales regarding nationality, type of residence area, and governorates. The data should be considered cautiously as some areas were represented by very few participants. The abuse was not associated with the location of residence or nationality. Abuse was positively associated with depression and anxiety. Participants who worked had lower scores. Abuse was not associated with the educational level. Overall, more physical abuse was disclosed among non-Lebanese than Lebanese. There was more sexual abuse disclosed by participants living in the city than in rural or refugee camps. Furthermore, PTSD was positively correlated with abuse ($r=0.387$, $p<0.0001$). Abuse was negatively correlated with the health status perception ($r=-0.167$, $p\text{-value}=0.009$).

Table 7: Composite abuse scale score and its associated factors

	Total score (75 points)	p-value
Religion		0.023
Muslim	16.8 ± 14.0	
Christian	12.5 ± 12.3	
Druze	32.8 ± 10.5	
Participant Education		0.175
Illiterate	14.0 ± 20.7	
Reads and writes	3.2 ± 3.0	
Any school level	17.5 ± 13.2	
College level	15.7 ± 15.1	
Husband Education		0.720
Illiterate	16.7 ± 17.6	

Reads and writes	13.7±17.3	
Any school level	17.4±13.9	
College level	15.1±10.7	
Participant works		0.015
Yes	14.0±12.2	
No	18.4±14.4	
Smoking		0.682
Yes	18.0±14.9	
No	16.4±13.2	
Exercise		0.876
Yes	16.7±15.3	
No	17.0±13.0	
Depression		<0.0001
No depression	11.4±11.5	
Possible depression	13.0±12.5	
Needs treatment	20.8±14.0	
Anxiety		
No anxiety	9.0±9.3	
Mild anxiety	12.3±10.2 ^a	
Moderate anxiety	15.0±12.6	
Severe anxiety	20.7±15.0 ^a	
Nationality		0.118
Lebanese	15.7±12.0	
Non-Lebanese (Syrian, Palestinian, others)	18.5±15.8	
Location of residence		0.252
City	18.0±14.1	
Rural	14.6±13.0	
Refugee Camp	17.2±14.0	
Governorate		0.031
Beirut	12.1±13.0	
Mount Lebanon	16.0±14.0	
Akkar (1 person)	22.0	
Bekaa	16.4±14.7	
Baalbek-Hermel	30.3±33.3	
North Lebanon	19.7±12.7	
Nabatieh	14.0±18.5	
South Lebanon	13.1±10.9	

C.5- Resilience



The participants scored 58.0 ± 17.5 on the CD-RISC 25 resilience scale. Table 8 shows the scores of the resilience subscales.

Table 8: Resilience of the participants

	Total Score	Hardiness	Coping	Adaptability flexibility	Meaningfulness purpose	Optimism	Emotion regulation	Self-efficacy
Mean (SD)	58.0 ± 17.5	16.9 ± 6.3	10.9 ± 4.2	6.8 ± 2.9	11.4 ± 2.6	3.3 ± 2.1	3.3 ± 2.2	5.4 ± 2.0
Maximum Score	100	28	20	12	16	8	8	8

A bivariate analysis was conducted to determine the factors associated with resilience. There was a positive association between resilience and age, personal income, and place of residence (Tables 9 and 10). Resilience was negatively associated with crowding index, depression, anxiety, PHQ-15, and PTSD. Moreover, resilience was negatively associated with food and clothes insecurity, feeling unsafe, and lack of community support. Resilience was positively associated with educational level, especially a college education, and working and exercise status of the participant.

Table 9: Continuous factors associated with resilience (N=242)

	Pearson Coefficient	p-value
Age	0.160	0.014
Crowding index	-0.199	0.002
Depression	-0.289	<0.0001
Anxiety	-0.281	<0.0001
Personal income	0.281	0.017
PTSD	-0.345	<0.0001

Table 10: Categorical variables associated with resilience (N=242)

	Resilience			p-value
Religion				0.112
Muslim	57.8 ± 16.7			
Christian	65.5 ± 15.7			
Druze	59.2 ± 29.6			
Participant Education				<0.001
Illiterate	56.7 ± 12.0			
Reads and writes	58.3 ± 9.1			
Any school level	55.7 ± 17.1^a			

College level	68.8±17.2 ^a			
Husband Education				0.014
Illiterate	51.9±18.0			
Reads and writes	48.5±16.5			
Any school level	57.6±16.5			
College level	64.9±18.8			
Participant works				0.038
Yes	61.1±18.4			
No	56.1±16.8			
Smoking				0.483
Yes	59.2±17.0			
No	57.5±17.6			
Exercise	67.3±15.1			<0.0001
Yes	53.4±16.9			
No				
Residence Location				
City	60.8±17.0			<0.0001
Rural	57.7±17.3			
Refugee camp	41.9±12.5			
	No problem	Somewhat problem	Serious Problem	p-value
Food security	66.1±16.3	58.1±15.7	52.1±18.1	<0.0001
Clothes/blankets/shoes security	63.5±17.4	62.3±14.2	52.0±17.4	<0.0001
Access to healthcare	63.4±18.1	59.3±16.0	55.8±17.9	0.062
Access to medications	64.4±17.2	59.0±16.0	55.9±18.0	0.026
Feeling unsafe (weapons, violence, crime)	64.5±14.5	55.0±16.9	54.7±18.5	<0.0001
Taking care of dependent family members (children or elderly)	58.8±18.4	59.3±16.3	55.6±16.7	0.422
Lack of community support	65.8±15.8	60.8±15.3	52.1±17.7	<0.0001
Dealing with COVID	598±16.4	52.3±19.2	45.3±16.5	0.002

C.6- Resilience as a mediator between violence and health

Regarding the mediator effect of resilience on the relationship between violence and health, a simple linear regression showed that violence was a statistically significant predictor of health ($B=-0.009$, $t=-2.632$, $p=0.009$). Next, when the mediator, resilience, was entered into the regression analysis, violence was no longer a significant predictor of health ($B=-0.007$, $t=-1.830$,



$p=0.068$). On the other hand, the mediator, resilience, emerged as a predictor of health ($B=0.011$, $t=3.768$, $p<0.0001$). To further investigate the mediator effect, the Sobel test was utilized to examine if resilience significantly mediated the relationship between violence and health. The results confirmed that resilience significantly mediates the relationship between violence and health ($Z=3$).

H- Discussion

The aim of the present study was to explore the effect of resilience on certain health outcomes among women survivors of IPV. The findings are expected to be useful in guiding future research and policies, shedding light on what women would be needing to restore control over their lives and survive the violence they are subject to, awaiting a solution (if any) to their situation. While risk factors and psychopathology associated with IPV are well researched, less is known about factors related to the functioning of resilience in the context of IPV and the variables affecting it including women's demographic characteristics, past life stressors, history, and severity of IPV. In this regard, the findings from this study offer helpful insights.

D.1- Violence exposure

We had 242 participants in our research including Lebanese and non-Lebanese (Syrian and Palestinian refugees) who were recruited from organizations providing support to violence survivors. Our findings reveal that the participants scored 6.9 ± 13.8 on violence as measured by the composite abuse scale, which reflected that the violence reported was not very severe. It is possible that the women interviewed were seeking advice or help from the organizations before the violence becomes severe, or the participants were reluctant or ashamed to disclose the severity of the violence to a stranger (data collector). There was more physical abuse reported among non-Lebanese (18.5 ± 15.8) as compared to Lebanese (15.7 ± 12.0), which may be related to the more difficult living conditions the refugees characterized by crowding, lack of privacy, adult unemployment, and possibly food insecurity and lack of safety feelings.

Our study also showed that there was more sexual abuse in Beirut. This increased prevalence can be true but the reasons leading to it are to be investigated; it is also possible that sexual abuse was underreported by participants who were living in rural areas. Rural areas may strongly adhere to traditions encouraging women to be submissive and men to exhibit leadership control, be dominant and strong, and hence participants may be concerned about disclosing violence and defying male dominance [59].

D.2- Health indicators of participants

Our findings revealed that most of the participants rated their health as average to poor and had frequent complaints of reproductive health like menstrual pains and sexual problems. The use of a family-planning method was acceptable as about half of the sample was using a contraceptive method whereas the most common reason for not using one was the spouse being away. Yet, the



finding of 8% having had an abortion in the past month is relatively high. As these abortions are usually not documented, it is possible that women misinterpreted menstrual irregularity for an abortion. On the other hand, there was considerable use of healthcare professional visits over the past 6 months and less of the use of services (labs or X-rays), which is also understandable as professional visits in health centers are relatively affordable while the cost of services has increased lately. However, mental wellbeing seems to suffer the most with almost half of the participants struggling with severe anxiety, depression needing treatment, and using sleeping pills. These health findings are known to be consequences of violence exposure and reflect that their mental problems are not well attended to, since only 4% are being treated. This could be because of the scarcity and cost of mental health services as well as the taboo associated with mental diseases. Notably, exercise, education and work were found to be related to better mental health.

D.3- Help-seeking and the role of healthcare

Although most of the participants were referred by organizations providing help for IPV survivors, it was surprising to find that silence and not seeking help were commonly reported strategies used by participants as a response to IPV. Many thought they can deal with IPV alone or considered it a normal occurrence in marriage. This may reflect, as previously shown in literature, women using negative coping strategies, including justification and acceptance to deal with IPV [60]. Some women may also be adopting the conventional perception of abuse whereby violence in a family is excluded from their definition of abuse [4], placing them at increased risk of being caught in the abusive relationship and suffering its health consequences. Violence as well as emotional awareness, that is the ability to identify emotions and express feelings, may be needed to facilitate positive adaptation and reduce vulnerability to re-victimization [61].

Although the majority of participants reported their health to be average or poor and were suffering from mental health issues, multiple somatic and reproductive health problems, including menstrual pain and irregularity, only 11 % had discussed IPV with a healthcare professional. The relationship between body and mind may not be clear to many women and could be overlooked by healthcare professionals. The IPV support services are scattered and available through civil society and private advocacy groups [4]. The healthcare system needs to be more involved in caring for IPV survivors. In terms of practice and policy, there are several ways in which institutions can succeed in meeting women's needs, one of which is to recommend training to providers and legal personnel to be able to better assist IPV victims [62].

D.4- Resilience, intimate partner violence and health

The study revealed that IPV exposure was a statistically significant predictor of poor health and confirmed that resilience significantly mediates the relationship between violence and health. As depression and anxiety are known to be associated with poor health, resilience may be playing a



mitigating effect by dampening the effect of depression and anxiety and getting women to feel more in control of their life, safe and secure. The use of healthcare services was not modified by resilience as the timespan used for measurement (six months) may be relatively short to show an effect.

Resilience was positively associated with women's age, a finding already demonstrated in previous research [63]. Moreover, our research also demonstrated resilience to be positively associated with women's education, personal income, and exercise. These factors have been related to positive health outcomes and lower levels of violence victimization. Rahme et al suggested that being unemployed is one of the factors associated with more violence against women [5]. A study done by Singh A et al [66] among Syrian refugee women living in non-camp settings in Jordan examined the relationship between financial dependence and IPV. The findings reveal economic stability in a relationship to be a protective factor, while changes in financial dependence on husbands were associated with a higher likelihood of reporting IPV victimization in the previous 12 months [66]. On the other hand, higher income levels tended to be associated with increased access to resources, more perceived control, and higher levels of resilience [64], while lower SES was associated with an insecure sense of the future, passive coping, heightened stress, and poor health [65]. As for exercise, the literature is abundant on its positive effect on physical and mental health. It has also been found to improve self-esteem in women affected by violence [67].

In brief, the mitigating role of resilience can be partially explained by the positive effect of education, work and exercise on health and their protective effect on IPV. Educating women and encouraging them to join the working force can also help in mitigating the feeling of food and clothes insecurity and possibly crowding, which were negatively associated with resilience. Exercise improves their physical and mental health and their self-esteem. As these are modifiable factors, interventions targeting them can help empower women and strengthen their resilience, especially in situations where resources and services are becoming less accessible or affordable.

H- Ethical considerations

Researching violence survivors and refugees raises several ethical challenges:

- Respecting anonymity and confidentiality: as participants were recruited mostly from organizations that provide support for abused women, there was a risk that the identity of the participants may be revealed to the data collector. This was anticipated by asking the organizations to initiate contact with the survivors, ask them to suggest a pseudonym to be identified with and a time to receive the call from the data collector. The research team received from the organizations the list containing the suggested name, phone number and time for the call. The data were entered online using KoboToolbox with the phone number as an identifier.
- Safety of data collection through phone calls: phone calls have the advantage of securing anonymity, but there is a risk that the respondent may not be alone when receiving the call



or during the interview. To prevent this, the data collectors were calling at the preferred time indicated by the respondent, making sure that the name given is the one taking the call, asking the respondent if she was alone before answering the questions, and instructing them to terminate the call if their privacy was jeopardized.

- Addressing sensitive and painful issues: the research involves disclosing sensitive and often painful memories following which the respondents may feel very distressed. The respondents were informed that they can decline to answer a question, and in case of distress, they were referred to the organization to seek psychological support. Along the same vein, the information revealed was occasionally emotionally disturbing to the data collectors. Debriefing and psychological support sessions were provided.

I- Limitations

The research reveals that resilience may mitigate the health effect of IPV. The results are to be considered within the following limitations:

- The sample included women exposed to violence who were referred from organizations that assist violence survivors. The results may not be applicable to women exposed to less levels of violence exposure. Also, it is not known whether the ones who agreed to participate in our research have similar characteristics to the ones who refused.
- The results do not reflect how resilience was achieved. A qualitative approach, using in-depth interviews, may be more suitable to provide good insight.
- The deteriorating financial situation could have affected our research outcome and frequency of healthcare utilization, as it may be affected by the increasing cost of healthcare and transportation.
- The sample is relatively small, with an underrepresentation of certain geographic areas. A bigger sample may provide wider diversity not only in the sociodemographic characteristics but also in the violence severity, mental status and resilience.
- The research demonstrates an association between resilience, IPV and health which may not be causative. An interventional research design may be more helpful in establishing the protective effect of resilience.

J- Recommendations

Overall, the study explored the role of resilience as a way to promote wellbeing among IPV-victimized women. As most women do not seek formal help, building resilience may be a possible solution for them to maintain health and mental wellbeing. This is particularly important nowadays as health services are becoming less accessible for many reasons, mental health services are scarce, and the institutions responding to violence are risking phasing out because of decreased funding sources.

Making women aware that resilience is a process in which they can use different assets and resources and build new opportunities for growth may help reduce feelings of helplessness and



increase their ability to thrive despite adversity [68]. Increasing social and economic support can be helpful because of its stress-buffering effect and its potential to offer new growth paths. Warning of the risks that threaten women has proven useful in preventing re-victimization [69].

Hence, a recommendation for a policy to build on women's resilience and mitigate negative coping strategies is important. This can be done by encouraging women's education, work enrollment, engaging in physical exercise, and supporting their mental wellbeing. Yet, more research is needed to understand resilience, as our research has several limitations. Hence, the following is recommended:

For academics:

- Encourage and conduct research that further clarifies the concept of resilience: determinants, reinforcing factors, and protective effect. Research may need to be mixed methods including narrative interviews and quantitative surveys involving larger and a wider distributed sample from the community and including more geographic areas. Interventions fostering resilience need to be designed and assessed as well as analyzing their effect, better through prospective trials. The use of information technology as well as social media can be explored to research how best resilience can be strengthened (apps, online groups, ..)
- Introduce in medical schools and universities a curriculum for addressing violence survivors that includes ways to build and strengthen resilience.

For policymakers/leaders:

- Create an environment condemning IPV and family violence as, for example, encouraging NGOs and institutions to conduct awareness campaigns to decrease justification of violence and blaming the survivor.
- Strengthen the response to family violence by following the implementation of the related legislation, and monitoring the work of the formal sector and organizations involved.
- Improve accessibility to mental health services and incorporate resilience-building activities within these services. A family practice approach whereby mental, medical and reproductive health services are provided by the same provider may be a good solution.
- Encourage the development of a network to support women survivors of IPV/family violence that include resilient women survivors.
- Provide opportunities for women to engage in paid work and secure public spaces to practice physical exercises.

For healthcare workers:

- Build their capacity through training sessions/ workshops on improving care for violence survivors, and how to strengthen their resilience.



- Encourage a non-medication approach to mental health issues of patients and use of medication only when needed: behavioral approach, positive lifestyle, resilience building.

For organizations active in addressing IPV:

- Establish safe referral pathways and disseminate them through media so women can access them.
- Incorporate resilience-building and strengthening strategies in their response to violence.
- Increase awareness of women on the importance of recognizing and disclosing IPV and sexual violence, mostly in rural areas.
- Increase awareness of women on the body-mind relationship and health consequences of IPV, and facilitate disclosure to a healthcare provider.
- Sensitize women to the importance of addressing their mental wellbeing: how to deal with stress, anxiety, depression, and sleep problems (behavioral approaches).
- More awareness about the use and safety of medications for mental illness.
- Workshops to improve women's resilience, strengthening their self-efficacy and adaptability.
- Encourage women to engage in physical exercise.

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