Depression, PTSD and alexithymia in victims of intimate partner violence: a case-control study

Maria Salvina Signorelli[1]
https://orcid.org/0000-0001-5835-4176

Laura Fusar-Poli[1]
https://orcid.org/0000-0002-5847-6947

Eleonora Arcidiacono[1]
https://orcid.org/0000-0002-0799-076X

Pasquale Caponnetto[1,2]
https://orcid.org/0000-0002-9368-5867

Eugenio Aguglia[1]
https://orcid.org/0000-0003-2146-7737

[1] Department of Clinical and Experimental Medicine, Psychiatry Unit, University of Catania, Catania, Italy.
[2] Centre for the Prevention and Treatment of Tobacco Addiction (CPCT), Teaching Hospital Policlinico-Vittorio Emanuele, Catania, Italy.

Abstract

Background: Intimate partner violence (IPV) regards millions of women worldwide and can lead to serious psychopathological consequences. **Objective:** We aimed to evaluate differences between a group of abused women and controls, and potential predictors of depression and PTSD in the IPV group. **Methods:** We recruited 57 women who experienced IPV and 57 age-matched controls from the general population. After collecting socio-demographic characteristics, we administered the following scales: Hamilton Depression Rating Scale (HDRS), Davidson Trauma Scale (DTS), Toronto Alexithymia Scale (TAS-20) and Revised-Conflict Tactics Scale (CTS-2). **Results:** Our results showed differences between women who experienced IPV and controls in the socio-economic status, employment and educational levels, childhood abuse and early terminations of pregnancy. Notably, the rates of depression, PTSD, and alexithymia were significantly different between the two groups. Linear regression models revealed that sexual coercion was an independent positive predictor of depressive symptoms, while alexithymia played a role in the development of PTSD in the group of abused women. **Discussion:** Given the prevalence of depression and PTSD in victims of IPV, it is important to always investigate for IPV in women seeking for help in mental health services. Alexithymia in victims of IPV deserves to be further investigated by researchers.

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Introduction

Intimate partner violence (IPV), defined by the World Health Organization (WHO) as "any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship", is a major public issue which impacts millions of women worldwide[1]. It has been estimated that approximately one in three women around the world has suffered an episode of violence during their lives[2]. Although IPV regards people of various ages, ethnicities and socio-economic levels, prevalence of life-time IPV varies between 15% and 71% across countries. It has been hypothesized that the wide range may be related to different gender attitudes as well as to the presence of reinforcing factors for violence such as poverty[3]. Recently, a meta-analysis reported a significant association between childhood maltreatments and IPV victimization[4]. Moreover, it has been shown that women who experience IPV are more at risk of undesired pregnancies and premature gestation interruptions[5].

IPV is often characterized by an escalation of violence, which may become chronic with potentially dangerous consequences[6]. Women who have experienced IPV have multiple sequelae in the mental health sphere[7]. A meta-analysis reported that psychiatric disorders occur two to five times more frequently in survivors of IPV than in the general population. PTSD and depression were highly prevalent, with a weighted mean prevalence of 63.8% and 47.6%, respectively[8]. The link between IPV, depression and PTSD has been confirmed by several other studies[9,10].

Alexithymia, the inability of understanding, processing, or describing emotions[11], may play an important role in the context of domestic violence. Many studies have investigated the interplay between alexithymia and psychiatric diseases, such as depression[12,13] or PTSD[14], in several different contexts. Notably, it has been reported that people with higher levels of alexithymia are more at risk to develop PTSD after trauma exposure[15]. However, while research has thoroughly examined alexithymia in violent offenders[16], to our knowledge little is known about its prevalence in IPV victims and its role in the onset of psychiatric morbidities in this particular group of women. Recently, Craparo *et al.*[17] hypothesized that insecure attachment styles could contribute to difficulties in emotion regulation, typical of alexithymia, which in turn increased the vulnerability to IPV. In fact, in a group of abused women, these researchers found that alexithymia was negatively correlated with the ability to cope with stress[17].

Over recent decades the interest in IPV and its correlates, as well as the number of papers focusing on the topic, have rapidly increased. However, studies have been focused mainly on IPV in developing countries or in ethnic minorities, while less is known regarding the features of IPV in Western countries, particularly in Europe. Additionally, potential risk factors (i.e. alexithymia) for the onset of mental health problems in IPV population are not completely clear. Considering the paucity of relevant papers in the scientific literature, the aims of the present study were:

- To compare the characteristics of a group of women who experienced IPV to women from the general population, with a specific focus on depression, PTSD and alexithymia;

Address for correspondence: Laura Fusar-Poli. Department of Clinical and Experimental Medicine, Psychiatry Unit, University of Catania. Via Santa Sofia 78, 95123, Catania, Italy.
Telephone: +39 095 378 2470. E-mail: laura.fusarpoli@gmail.com

- To investigate potential predictors of developing depressive or post-traumatic stress symptoms in women who suffered from IPV, such as age, alexithymia, and types of IPV.

Methods

Participants

We recruited 57 victims of IPV from three women's shelters (Catania, Enna, and Caltanissetta) in Sicily, Southern Italy. Fifty-seven age-matched controls were recruited from primary care centers or outpatient services of the Gynecology and Obstetrics Unit of Policlinico "G. Rodolico", Catania, Italy. Participants were recruited if they were between 18 and 65 years and had been involved in an intimate relationship for at least one year. Exclusion criteria were: illiteracy or non-comprehension of Italian language, psychotic disorders, intellectual disability or any clinical condition that could affect cognitive performance and comprehension.

The study was performed in accordance with the Declaration of Helsinki. All participants read and signed a written informed consent. Ethical approval was obtained by our internal review board.

Procedures and measures

Women were invited to participate by a psychologist who fully explained the aims of the study, obtained written informed consent and collected socio-demographic data. A psychiatrist interviewed all participants to ascertain the presence of IPV, and then administered the assessment scales. Participants' partners were not present during the assessment.

All participants were asked to complete the following questionnaires or semi-structured interviews: Revised-Conflicts Tactics Scale (CTS-2), Davidson Trauma Scale (DTS), Hamilton Depression Rating Scale (HDRS) and Toronto Alexithymia Scale (TAS-20).

Revised-Conflict Tactics Scale (CTS-2)[18,19]

The Revised-Conflict Tactics Scale (CTS-2) is a 78-item self-report scale, which measures psychological and physical attacks on a partner in a dating, cohabiting, or marital relationship, as well as the use of negotiation or reasoning to deal with conflicts. For the purposes of the present study, we considered only violence victimization, and not perpetration. The CTS-2 contains five subscales (negotiation, psychological aggression, physical assault, sexual coercion and physical injury). Each item is rated on an 8-point frequency scale ranging from never to more than 20 times[18]. The simplest way to calculate the score of each subscale is to sum the point assigned to each single item of the subscale to create a scale ranging from 0 to 8. Additionally, the CTS-2 provides rates of ever prevalence and annual frequency of spousal violence, as well as chronicity and severity for the aspects of spousal conflict.

Davidson Trauma Scale (DTS)[20]

The Davidson Trauma Scale (DTS) is a 17-item self-rated measure that assesses DSM-IV symptoms of PTSD. Items are rated on 5-point scale. Respondents are asked to identify the trauma that is most disturbing to them and to rate, in the past week, how much trouble they have had with each symptom. DTS total score is computed by summing all item responses, with a possible range of 0 to 136. Consensus has not been reached regarding the cut-off score for a PTSD diagnosis. According to McDonald *et al.*[21], the original DTS has the best diagnostic efficiency (83%) when the cut-off score of 40 is used. Therefore, the cut-off of 40 was used in this study to determine whether PTSD was present. One major strength of the DTS is the possibility of administration a broad population of men and women exposed to different types of trauma.

Hamilton Depression Rating Scale (HDRS)[22]

The Hamilton Depression Rating Scale (HDRS) is a clinician-rated measure of depressive symptoms in adults. Each item on the questionnaire is scored on a 3- or 5-point scale. Total score can range from 0 to 54 points, with scores from 7 to 17 indicating mild depression, from 18 to 24 indicating moderate depression, and above 24 indicating severe depression[23].

Toronto Alexithymia Scale (TAS-20)[11]

The Toronto Alexithymia Scale (TAS-20) is a self-report measure of deficiency in understanding, processing, or describing emotions. The current version comprises 20 items rated on a 5-point Likert scale. Total score can range from 0 to 100. The TAS-20 uses the following cut-offs: scores equal to or less than 51 are indicative of non-alexithymia, scores of 52 to 60 indicate possible alexithymia, and scores above 61 are suggestive of alexithymia.

Statistical analyses

Descriptive statistics for all collected variables were calculated. Data were presented as means and standard deviations, percentages or counts as appropriate. Data were tested for normal distribution and homogeneity of variance before statistical procedures were applied. Chi-square tests or t-tests were performed to detect differences between the two groups. To evaluate potential predictors of depression and PTSD in abused women, univariate linear regressions were performed with the HDRS and DTS total scores as dependent variables, and age, TAS-20 values, and CTS-2 subscales (negotiation, psychological aggression, physical assault, sexual coercion and physical injury) as independent predictors. Significant predictors were then inserted in a multivariate linear regression. A two-tailed p-value <0.05 was regarded as significant. All statistical analyses were performed using IBM SPSS 24.0 for Windows.

Results

Characteristics of women who experienced IPV and control group

IPV was evaluated by means of the CTS-2. All scales were significantly different between the two groups. Women in the IPV group used less negotiation tools ($M = 8.77$, $SD = 6.76$) compared to the control group ($M = 29.58$, $SD = 8.92$). Moreover, women in the IPV group reported experiencing more psychological aggression (IPV $M = 36.77$, $SD = 10.07$; controls $M = 6.23$, $SD = 6.72$), physical aggression (IPV $M = 36.79$, $SD = 18.37$; controls $M = 1.21$, $SD = 5.78$), injury (IPV $M = 11.68$, $SD = 8.18$; controls $M = 0.39$, $SD = 2.06$), and sexual coercion (IPV $M = 19.72$, $SD = 15.71$; controls $M = 2.26$, $SD = 3.54$) than non-abused women. All differences were regarded as statistically significant ($p < 0.001$). Figure 1 shows the differences between the two groups reported at each scale of the CTS-2.
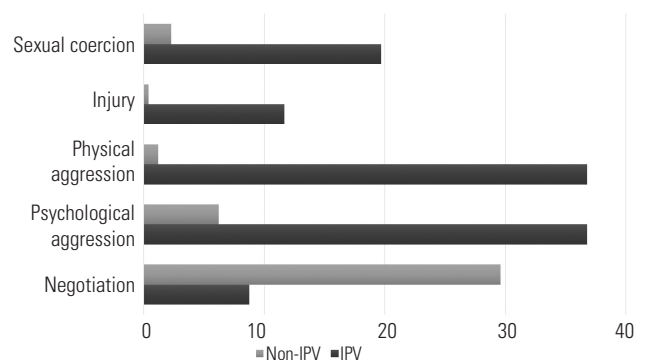

Figure 1. Differences at the CTS-2 between women who experienced IPV and women from the general population.

As reported in Table 1, the mean age of participants was 39.22 years ($SD = 9.69$), with no statistically significant differences between the two groups. No statistically significant differences were found also in the marital status or number of children. However, a larger number of women in the IPV group had voluntarily terminated a pregnancy during their lives (24.56% *vs.* 1.75%. of control group). Non-abused women had in average more years of education than abused women ($M = 13.67$, $SD = 3.9$ versus $M = 11.74$, $SD = 3.68$). Statistically significant differences were also present for employment status: 63% of controls had full-time or part-time employment, while only 44% of participants of IPV group were employed. About 37% was unemployed and about 20% were housewives. Also, socio-economic status significantly differed between the two groups: half of abused women were categorized as having a low socio-economic status, in comparison to only 8.77% of the control group. No statistically significant differences were found in history of drug or alcohol abuse. Of note, 25% of women in the IPV group was also victims of violence during childhood. Conversely, in the non-IPV group, only one person had suffered from childhood violence.

Table 1. Characteristics of participants

	IPV (N = 57)	Controls (N = 57)	p-value	Total (N = 114)
Age	39.21 ± 9.77	39.23 ± 9.68	0.992	39.22 ± 9.69
Education (years)	11.74 ± 3.68	13.67 ± 3.9	0.008*	12.70 ± 3.90
Marital status (%)			0.34	
In a relationship	5 (8.77)	9 (15.79)		14 (12.28)
In a domestic partnership/Married	30 (52.63)	32 (56.14)		62 (54.39)
Separated/Divorced	22 (38.60)	16 (28.07)		38 (33.33)
N of children (%)			0.064	
0	10 (17.54)	21 (36.84)		31 (27.19)
1	6 (10.53)	8 (14.03)		14 (12.28)
2	32 (56.14)	24 (42.10)		56 (49.12)
≥3	9 (15.79)	4 (7.02)		13 (11.40)
Voluntary termination of pregnancy (%)	27 (47.37)	1 (1.8)	<0.001*	28 (24.56)
Employment (%)			<0.001*	
Full-time	12 (21.05)	23 (40.35)		35 (30.70)
Part-time	13 (22.81)	13 (22.81)		26 (22.81)
Unemployed	21 (36.84)	6 (10.53)		27 (23.68)
Housewife	11 (19.30)	15 (26.32)		26 (22.81)
Social status (%)			<0.001*	
High	3 (5.26)	15 (26.32)		18 (15.79)
Medium	26 (45.61)	37 (64.91)		63 (55.26)
Low	28 (49.12)	5 (8.77)		33 (28.95)
History of drug abuse (%)	0 (0)	1 (1.75)	1 (Fisher)	1 (0.88)
History of alcohol abuse (%)	3 (5.26)	0 (0)	0.243 (Fisher)	3 (2.63)
Violence during childhood (%)	14 (24.56)	1 (1.75)	<0.001*	15 (13.16)

* Statistically significant.

Psychiatric characteristics of women who experienced IPV and control group

HDRS, DTS and TAS-20 scores of the two groups and corresponding classifications are reported in Table 2. Among IPV women, about 58% had moderate-to-severe depression according to HDRS. Moreover, according to the DTS, PTSD symptoms were significantly higher in the group of abused women, with a mean difference of 78.5 points between the IPV and control group. Using the cut-off score on the DTS of 40 proposed by McDonald *et al.*[21], the rate of PTSD was 87.7% in the group of victims of IPV, compared to only 3.5% in the control group. Finally, statistically significant differences were found in the TAS-20 scores, with IPV women having higher scores ($M = 60.49$, $SD = 17.95$) than non-abused women ($M = 38.6$, $SD = 13.9$). Figure 2 depicts the differences between the two groups at HDRS, DTS-2 and TAS-20.

Table 2. Scores reported by the two groups at the HDRS, DTS, and TAS-20

| Scale	IPV (N = 57)	Controls (N = 57)	p-value	Total (N = 114)
HDRS total score (depression)	22.18 ± 10.75	8.32 ± 5.52	<0.001*	15.25 ± 10.99
Normal (%)	2 (3.5)	29 (50.87)	<0.001*	31 (27.19)
Mild depression (%)	22 (38.6)	24 (42.10)		46 (40.35)
Moderate depression (%)	6 (10.5)	2 (3.51)		8 (7.02)
Severe depression (%)	27 (47.4)	2 (3.51)		29 (25.44)
DTS total score (PTSD)	81.58 ± 31.41	3.09 ± 12.9	<0.001*	42.33 ± 46.10
PTSD (%)	50 (87.7)	2 (3.5)	<0.001*	52 (45.61)
TAS-20 total score (alexithymia)	60.49 ± 17.95	38.6 ± 13.9	<0.001*	49.54 ± 19.40
Non-alexithymia (%)	19 (33.33)	40 (70.18)	<0.001*	59 (51.75)
Possible alexithymia (%)	13 (22.81)	16 (28.07)		29 (25.44)
Alexithymia (%)	25 (43.86)	1 (1.75)		26 (22.81)

* Statistically significant.
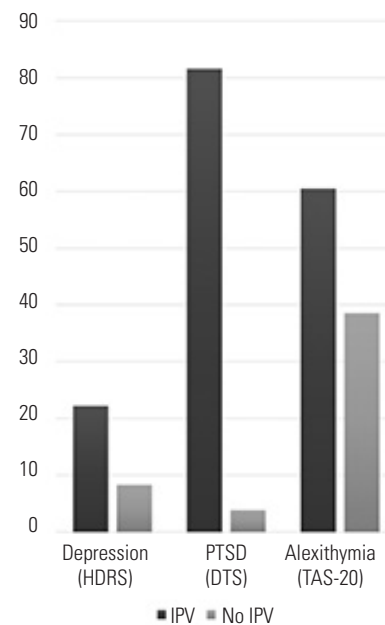
Figure 2. Differences at the HDRS, DTS and TAS-20 between women who experienced IPV and women from the general population.

Predictors of depressive and post-traumatic stress symptoms in women who experienced IPV

We hypothesized that age, alexithymia and IPV factors, as measured by the scales of the CTS-2, could represent potential predictors of depression and PTSD in women who experienced IPV. Univariate linear regressions identified two independent predictors of HDRS scores, alexithymia and sexual coercion. The multivariate model was statistically significant (p < 0.001) and explained 26% of the variance. However, in the multivariate model only sexual coercion was confirmed as a significant predictor of depressive symptoms in the group of IPV women (Table 3).

Table 3. Univariate and multivariate linear regressions investigating predictors of HDRS scores (Model: R2 = 0.261; SE = 9.405; F = 9.56; p < 0.001).

	Univariate linear regressions					Multivariate model		
	R²	F	B	β	*p*-value	B	β	*p*-value
Age	0.034	1.956	-0.204	-0.185	0.168		---	
TAS-20	0.069	4.087	0.157	0.263	0.048*	0.13	0.218	0.069
Negotiation	0.025	1.438	-0.254	-0.160	0.236		---	
Psychological violence	0.008	0.445	0.096	0.090	0.507		---	
Physical violence	0.005	0.265	0.040	0.069	0.609		---	
Sexual coercion	0.215	15.022	0.317	0.463	<0.001*	0.302	0.441	<0.001*
Injury	0.006	0.353	-0.105	-0.080	0.555		---	

* Statistically significant.

Univariate linear regressions were computed to evaluate potential predictors of post-traumatic stress symptoms, as measured by the DTS. Only alexithymia was regarded as a positive independent predictor of DTS scores (p = 0.008), explaining the 12% of the variance (Table 4).

Table 4. Univariate linear regressions investigating predictors of DTS scores

	R2	F	B	β	*p*-value
Age	0.001	0.076	-0.119	-0.37	0.784
TAS-20	0.120	7.507	0.606	0.347	0.008*
Negotiation	0.008	1.462	-0.747	-0.161	0.232
Psychological violence	0.062	3.62	0.775	0.249	0.062
Physical violence	0.01	0.465	0.169	0.099	0.465
Sexual coercion	0.051	2.945	0.451	0.225	0.092
Injury	0.005	0.252	0.259	0.068	0.618

* Statistically significant.

Discussion

Main findings

IPV is a major public issue which affects about 25% of women in Europe. However, little is known about the characteristics of IPV victims in Italy and their correlates, including the type of violence they may experience. The present study compared a sample of victims of IPV to a group of women from the general population. Our results generally confirm findings in the existing literature: victims of IPV reported a lower socio-economic status, lower educational levels, and were less likely to be employed than controls[24]. These results suggest that poverty may play an important role in determining the perpetration of violence. Less education, in fact, may limit employment opportunities; unemployment could in turn cause isolation and limitation of resources. Therefore, given the poor financial and social resources, potential victims could be more exposed to IPV.

Our findings are consistent with other research reporting that adult victims of IPV have an increased likelihood of having experienced violence during childhood[4]. Several explanations could be hypothesized. First, maltreated children may perceive abusive interactions as normal and appropriate, thus justifying the presence of violence in intimate relationships[25]. Second, it might be difficult for them to develop adequate coping strategies, being more exposed to IPV victimization[26]. The poor quality of the parent-child relationship could represent another risk factor for victimization[27]: individuals who have been maltreated in childhood generally show the tendency to feel unlovable, helpless, and have a low self-esteem[28]. Given these characteristics, these individuals may appear weak and represent an easy target for IPV perpetrators[29].

Voluntary terminations of pregnancy were also significantly higher in the group of abused women. Our results are in line with previous reports[5]. We could hypothesize that abusive relationships, typically characterized by high levels of fear and control, and by sexual coercion, can result in women's inability to negotiate contraceptive methods, thus leading to unintended pregnancies and abortions.

Moving to mental health issues, our results confirmed that depression and PTSD symptoms represent significant psychiatric issues in abused women. However, retrieved prevalence rates are slightly higher than those previously reported[8]. According to the HDRS scores, almost 58% of women with IPV reported moderate-to-severe depression and based on the suggested cut-off score of 40 on the DTS, 87.7% of the IPV sample had PTSD. One possible explanation is that subjects included in the study had already been referred to shelters for help, which might reflect greater severity of violence and correspondingly a more severe symptomatology. It is also possible that using the suggested cut-off score of 40 as proposed by McDonald *et al.*[21] for a PTSD diagnosis on the DTS may have resulted in a high number of false positives. In fact, this cut-off has not been validated in different samples and while the specificity is excellent (0.95), the sensitivity is lower (0.69). Finally, we could hypothesize that the IPV subjects might have overestimated their symptoms, particularly while completing the DTS, which is a self-report tool. This interpretation is consistent with the findings of Brady *et al.*[30] who recently reported that alexithymia seemed to predict the over-reporting of PTSD symptoms in a group of veterans. Indeed, our data showed that levels of alexithymia were significantly higher for the IPV group than for controls. Notably, this is one of the first studies to specifically examine the role of alexithymia in abused women, cautiously supporting the hypothesis that alexithymia may be a risk factor for becoming an IPV victim[17].

Predictors of depression and PTSD in the group of women who experienced IPV

The severity of depressive symptoms was predicted by alexithymia and the CTS-2 sexual coercion scale in the univariate regression. However, in the multivariate model, only sexual coercion was confirmed to be an independent predictor of depressive symptoms. Our results are in line with a paper examining IPV in Indian pregnant women[31], reporting that depressive and PTSD symptoms were higher in those with a history of abuse or sexual coercion. However, while the relationship between sexual abuse and peri- or post-natal depression have been examined by several studies, to our knowledge, no other authors have previously found a specific relationship between sexual coercion and depressive symptoms in the context of an abusive relationship. Sexual coercion is "unwanted sexual activity that happens when a person is pressured, tricked, threatened, or forced in a nonphysical way"[32]. However, since sex is an important aspect of intimate relationships, detecting or demonstrating sexual coercion in the context of an intimate partnership might be difficult or might not be identified by the victim as abuse. Additionally, given the widespread blaming attitude towards victims of IPV[33], women might be less likely to report the abuse, especially when physical signs of the violence such as bruises and abrasions are not. This may cause a vicious cycle in which women may develop depressive symptoms in response to feeling trapped in an abusive relationship where others may blame them for the abuse; this may in turn prevent them from reporting the domestic violence, even if they identify it as such. Of note, blaming attitudes towards victims, perceptions that the victim and not the perpetrator is responsible for the abuse and tolerance

towards perpetrators of violence may also explain the low rates of IPV reported at the CTS-2 by the control group[33]. In fact, it has been demonstrated that IPV is frequently unreported or underreported by victims[33].

Surprisingly, none of the CTS-2 subscales predicted PTSD symptoms in the group of abused women. This is in contrast with data reported by Basile *et al.*[9], who found that physical violence, psychological violence and stalking significantly predicted PTSD in a group of abused women. The differences with our findings might be related to the different sample sizes, as well as to the different types of measures used.

Of interest, we found that alexithymia was a positive independent predictor of PTSD. The interplay between alexithymia and post-traumatic stress symptoms has been thoroughly examined in literature. For instance, a meta-analysis by Frewen *et al.* has supported the hypothesis that individuals diagnosed with PTSD may experience symptoms of alexithymia[34]. More recently, a cross-sectional study found a significant relationship between alexithymia and number of traumatic experiences in a sample of healthy individuals, further bracing the association between multiple and complex traumatization and alexithymia[35]. Of note, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), PTSD may be characterized by negative changes in cognition and mood, such as loss of interest in activities, detachment from others, inability to experience positive emotions[36]. Similarly, the 11th revision of the World Health Organization's International Classification of Diseases (ICD-11) requires the presence of "severe and persistent problems in affect regulation" for the diagnosis of complex PTSD[37]. Nevertheless, mood changes and affective dysregulation may be related not only to PTSD, but also to alexithymia, which in fact consists in an impairment in emotional awareness. The overlapping symptomatology between the two conditions has led to discuss if alexithymia should be considered a facilitator of the development of PTSD in individuals who suffered traumatic experiences, such as IPV, or a component of PTSD itself, and therefore a consequence of the traumatic experience[35]. Our regression analysis was based on the hypothesis that alexithymia could represent a vulnerability factor for IPV[17], thus increasing the risk of developing PTSD[15]; however, given the cross-sectional design of the present study, we cannot exclude that alexithymic-like traits might be a component of the PTSD itself.

Strengths and limitations

A strength of our study was that we investigated the characteristics of IPV in women in a European country, while heretofore the majority of literature has been focused on developing countries or ethnic minorities. Additionally, to the best of our knowledge, this is the first study to investigate potential predictors of comorbid psychopathology in abused women, and to explore the role of alexithymia. Nevertheless, several limitations should be acknowledged. First, given the case-control design, we did not consider the onset of mental health issues, such as depression or PTSD, longitudinally, and therefore we could not completely clarify the role of alexithymia in developing psychopathology after trauma-exposure. Also, we considered only two groups of symptoms (post-traumatic stress and depressive symptoms), which according to literature are the most frequently related to IPV. Future research should examine how IPV might be related to the onset of other psychiatric disease, such as anxiety or psychoses. Third, our population comprised only women living in a Southern Italy region. According to the literature, females are more likely to be at risk of IPV, but we are aware that this perspective could represent a bias and we encourage researchers to further explore the male perspective in IPV. Finally, our control group was representative of the general population: it might be interesting in future research to compare the mental health issues of women who suffered from IPV to those of women who suffered from other types of aggressive and intrusive behaviors (e.g. sexual harassment, sexual offences, bullying, cyberbullying, physical injuries). For all these reasons, we cannot extend the generalizability of our findings to other countries or populations.

Implications for clinical practice and future research

Our findings confirmed that IPV is an important public health problem, with psychopathological consequences that might severely impact an individual's functioning. Sexual coercion seemed to predict the severity of depressive symptoms in women who experienced IPV, whereas alexithymia seemed to predict the severity of post-traumatic stress symptoms. Future research should further investigate the characteristics and mental health issues of women suffering from IPV. Of note, the role of alexithymia deserves additional investigation; more studies are needed to determine whether it is a causal factor of mental health issues in abused women or a consequence of the abuse, even if we are aware that longitudinal studies are extremely difficult to conduct. This could be important not only in terms of prevention and early detection, but also in terms of therapy: it has in fact been demonstrated that alexithymia may impact on the outcome of psychosocial interventions[38], which are fundamental for IPV victims.

Given the high prevalence of psychiatric conditions in victims of IPV, professionals (i.e. psychologists, psychiatrists) should always assess IPV while collecting personal and familiar history of women and men seeking for help in mental health services. Reported IPV, in fact, is only "the tip of the iceberg"[39]. Additionally, it is important to consider not only traditional types of IPV, but also new forms of IPV, such as stalking, which has dramatically increased over the last years[40,41].

Disclosure

All authors declare no conflict of interests.

Compliance with ethical standards

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in the study.

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