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ASSOCIATIONS BETWEEN INTIMATE PARTNER VIOLENCE, DYSFUNCTIONAL ATTACHMENT STYLE AND ALEXITHYMIA AT WOMEN DISPLAYING SOMATOFORM DISORDERS

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Abstract: Intimate partner violence (IPV) is a major reason of concern worldwide. This study aimed to investigate the associations between alexithymia, dysfunctional attachment style and somatoform disorders (SD) at women victims of IPV.

*Methods***.** 40 female patients (mean age=41.55, standard deviation=10.33) with a history of IPV, confirmed through the Women Abuse Screening Tool (WAST) were compared to a control group (n=40, mean age=43.90, standard deviation=8.30). All participants were administered the Toronto Alexithymia Scale (TAS-20) for alexithymia, the Adult Attachment Scale (AAS), the WAST test and the Patient Health Questionnaire (PHQ-15) for SD. t-tests, Pearson's correlations and MANOVA were used to test the significance of group differences.

Results. Women victims of IPV had higher scores in alexithymia and SD ($p<.001$) compared to controls. SD correlated highly to IPV ($r=.537$, $p<.001$) and moderately ($r=.349$-$|.449$, $p<.001$) to attachment styles. Alexithymia correlated highly to IPV($r=.633$, $p<.001$). The MANOVA analysis displayed an important influence of IPV on various components of alexithymia and on SD. This influence is distinct, and almost exclusively independent of the attachment style.

Conclusions. IPV is a significant risk factor for alexithymia and SD.This supports the need for early psychological interventions in IPV, addressing the cognitive and emotional components of IPV.

Keywords: intimate partner violence, alexithymia, attachment style, somatoform disorders.

INTRODUCTION

Domestic violence (DV) is defined as "the threat or exercise of physical, psychological, and/or emotional violence; i.e., any type of force against another person with the intent of inflicting harm or exercising power and control over them" [1]. Most often, the perpetrator belongs to the victim's "domestic environment" [1]. A particular component of DV is intimate partner violence (IPV), which affects mostly women [2], and refers to "behavior by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion, psychological abuse and controlling behaviors" [3].

IPV is a major reason of concern, as it is a worldwide phenomenon. Almost one third (30%) of all women who have been in a relationship have experienced physical and/or sexual violence by their intimate partner [4]. The IPV prevalence estimates range from 15%-71% [5], however these figures could be misleading, as IPV is often under reported (e.g., out of fear of repercussions, or because of local cultural prohibitive norms) [6], and in many cases difficult to diagnose [7-9].

Women of various ethnical and socio-economic backgrounds, irrespective of their age, can be victims of IPV and subsequently display serious psychiatric or somatic consequences. In terms of psychiatric disorders,

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PTSD, depression, anxiety, sleep difficulties, eating disorders, alcohol consumption, and suicide attempts are often reported to be more abundant in victims of IPV than in general population [10-17].Equally, scientific data suggest a possible relationship between IPV and somatoform disorders (SD)[18-21].As this last concept is by itself heterogeneous in the way it is clinically understood [22-24], the connection between it and IPV represent a fertile ground for research. In this respect, previous literature data suggest, in victims of IPV who display SD, a relative important contribution of psychological variables, such as personality disorders and personal traumatic history, but do not exclude a potential role of less studied factors, such as alexithymia and dysfunctional attachment style [25]. Thus, alexithymia, defined as the "difficulty in being able to identify one's own emotions and describe them" [26] could be a significant mediator between IPV and somatization, as it is associated to both of them [27, 28]. Dysfunctional attachment styles could equally contribute to impaired emotion regulation, which in turn can increase the vulnerability to IPV [25], while they are also significantly associated to atypical somatic symptoms [29].

The aim of this study was to investigate the associations between alexithymia, dysfunctional attachment style and the presence of SD at women who were victims of IPV. Specifically, we hypothesized that somatoform disorders and alexithymia are significantly higher at women having a background of IPV, with a possible additional role of a dysfunctional attachment style.

METHODS

Participants

The study group was represented by 40 female patients (mean age = 41.55 years old, standard deviation = 10.33), who were recruited by purposive sampling from a private Family Medicine office in Bucharest and had been diagnosed with SD and a personal history of IPV.

Inclusion criteria comprised physical symptoms and persistent requests for medical investigations, in spite of negative findings and reassurance, lasting more than 6 months,and a score at the Woman Abuse Screening Tool (WAST) instrument higher than 13.

The control group (n = 40, mean age = 43.97 years old, standard deviation =8.30)was represented by a community sample of healthy women being 18 years of age or older, being married or cohabitating with a significant other, and with a WAST score below 13. For both groups, the agreement with the study aims, expressed through filling an informed consent form, was mandatory to participate in the study. Exclusion criteria were represented by the history or concomitance of psychiatric illness, cognitive impairment, and the refusal to participate in the study.

Study instruments

1. The Toronto Alexithymia Scale (TAS-20) [31, 32] is a 20-item self-report measure. Items are rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Three components of alexithymia are exposed: (a) difficulty identifying feelings (DIF), (b) difficulty describing one's feelings to others (DDF), and (c) externally oriented thinking (EOT). Cut-off scores are ≤ 50 = no alexithymia, 51–60 = borderline alexithymia, and ≥61 = alexithymia.The test has been reported to display good reliability and factor validity [33], with a Cronbach's alpha between .80 and .83, for the total scores, and between .64 and .81, for the separate subscales [31];

2. The Adult Attachment Scale (AAS)[34]was built on the structure of earlier works on attachment [35, 36]. The scale measures secure, anxious and avoidant attachment styles, and was developed by decomposing the original three prototypical descriptions into a series of 18 items, scored on a 5 point Likert-type scale. In terms of reliability, the scale's Cronbach alpha coefficients range between .69 and .75, which is satisfactory to measure the attachment style in clinical and non-clinical subjects;

3. Woman Abuse Screening Tool (WAST) [37] represents a quick screening measure of IPV, suitable for the use in medical offices. It comprises 8 items, scored 1 ("never" or "none") to 3 ("a lot" or "often"). Total scores range from 8 to 24, with a recommended cut-off of 13 to indicate presence of abuse. The scale has good reliability and validity [37-40] and good internal consistency (Cronbach's α = .75). It was able to accurately identify up to 100% of non-abused women and up to 91.7% of abused women [37-38]. In our study, the test was used to construct the study and control groups (by using the recommended cut-off point above);

4. The Patient Health Questionnaire—15 (PHQ-15)[41]is a frequently used questionnaire to assess somatic symptoms, derived from the full Patient Health Questionnaire [41-42]. It comprises 15 somatic symptoms, each of them being scored from 0 ("not bothered at all") to 2 ("bothered a lot"). The total amount of somatization is calculated through summing up the scores from all the items. The questionnaire has been described as very useful in identifying patients with SD.

It has been described as being not only a reliable and valid self-report measure for somatization in health care settings, but also in the general population [43].

Data analysis

Data analysis was performed using SPSS 21 (SPSS®, Inc., Chicago, IL, USA). The first level of analysis was realized through inventorying the differences between the study groups (IPV and controls) and measuring their significance through t-tests for independent samples. The relationships between variables within groups were analyzed using Pearson's r correlation tests, while the predictors of somatizations and alexithymia were analyzed through multivariate MANOVA analysis. For all these comparisons, the threshold of statistical significance was $p < .05$.

RESULTS

Differences between the study groups

The significance of the statistical differences between the IPV group and the control group is highlighted in Table 1. They contrasted at all characteristics measured, with the exception of age and the subscale "Difficulty identifying feelings" of the TAS-20 test. Specifically, the IPV group had significantly higher scores in what concerned "Difficulty describing feelings", "Externally-oriented thinking" and "Total alexithymia", somatic symptoms, and the anxious and the avoidant attachment styles. Oppositely, IPV participants had lower scores of the secure attachment style.

For alexithymia, the mean total score in the study group was above the threshold of 61, which could label these participants as alexithymic.

Pearson's correlations

The Pearson's correlations between all study variables are figured out in Table 2.

In terms of somatoform disorders, they were highly correlated to intimate partner violence ($r = .537$, $p < .001$), and moderately correlated to all attachment styles (secure attachment $r = -.441$, $p < .001$, avoidant attachment $r = .449$, $p < .001$, and anxious attachment $r = .349$, $p < .002$).

In its turn, EOT and alexithymia as a whole were highly correlated to IPV ($r = .529$, $p = .001$ and $r = .633$, $p < .001$), while the other two components of alexithymia (DIF and DDF) were only weakly correlated (rs below .30). Two of the components of alexithymia (DDF and EOT) and alexithymia as a whole were moderately correlated to the attachment styles (negatively with secure attachment, and positively with avoidant and anxious ones).

MANOVA analysis

This statistical procedure allowed the investigation of the effect of IPV and attachment style on alexithymia and on the occurrence of somatoform disorders. In the case of the attachment style, even causality can be presumed, as attachment style is chronologically built in childhood, thereby before the onset of alexithymia and SD. Results are synthesized in Table 3.

The MANOVA analysis displays a comparative important influence of IPV on various components of alexithymia and on the occurrence of SD. This influence is distinct, almost exclusively independent of the attachment style of the individual. Specifically, irrespective of the attachment styles, the onset of somatoform disorders and the total scores of alexithymia are significantly associated to IPV. In individuals with secure and avoidant attachment styles, IPV have also significant associations to a specific component of alexithymia, i.e. externally-oriented thinking style.

Table 1. Summary of differences between the study groups

Characteristics		*IPV group* *Mean (standard deviation)*	*Control group* *Mean (standard deviation)*	*t**	*p* *(two-tailed)*
Age		41.55 (10.33)	43.97 (8.30)	-1.15	.25
Alexithymia	DIF	20.72 (6.24)	18.02 (8.66)	1.59	.11
	DDF	14.00 (5.68)	10.12 (4.15)	3.48	.01
	EOT	29.00 (7.61)	18.60 (8.94)	5.59	.001
	Total	69.95 (14.94)	46.75 (13.32)	7.32	.001
Somatoform disorders		16.32 (2.80)	10.95 (3.27)	7.88	.001
Attachment style	Secure	11.77 (3.77)	18.92 (2.45)	-10.04	.001
	Avoidant	18.85 (3.31)	10.27 (3.24)	11.69	.001
	Anxious	18.10 (3.34)	11.02 (3.56)	9.15	.001

IPV = intimate partner violence, DIF = difficulty identifying feelings, DDF = difficulty describing one's feelings to others, EOT = externally-oriented thinking, t* = t-test for independent samples, df = 78.

DISCUSSION

The main aim of this paper was to investigate the importance of intimate partner violence, with or without a pre-existent dysfunctional attachment, for the onset of alexithymia and somatoform disorder in women. The two disorders mentioned above (one behavioral and one somatic) can be important consumers of hospital resources, thus making efforts to describe a risk profile a high priority for health professionals.

In this regard, our findings point out intimate partner violence as a significant risk factor that should be considered when analyzing female individuals at risk of developing alexithymia and / or somatoform disorders. This effect is independent of the style of attachment. A specific consequence for women with a safe and avoidant attachment style is the development, under the influence of IPV, of an outward-oriented thinking style, which, in turn, can make violence perceived as inevitable and delay the use of those state institutions that can manage it.

These findings are consistent with the results of other authors, who found in women victims of IPV a high prevalence of difficulties in adapting to stress, depression, PTSD and alexithymia [25, 44-46]. The

Table 2. Correlation matrix for all study variables (Pearson's r)

		DIF	DDF	EOT	AT	IPV	SD	SecA	AvA	AxA
DIF	*r*	1	.074	.180	.497	.256	.220	-.161	.052	.214
	p	-	.512	.110	.001	*.022*	.054	.153	.649	.056
DDF	*r*	.074	1	.320	.603	.285	.334	-.359	.313	.282
	p	.512	-	.004	.001	*.001*	.002	*.001*	*.005*	*.011*
EOT	*r*	.180	.320	1	.808	.529	.378	-.403	.380	.574
	p	.110	.004	-	.001	*.001*	.001	*.001*	*.001*	*.001*
AT	*r*	.497	.603	.808	1	.633	.510	-.489	.485	,650
	p	.001	.001	.001	-	*.001*	.001	*.001*	*.001*	*.001*
IPV	*r*	.256	.285	.529	.633	1	.537	-.626	.670	.696
	p	*.022*	*.001*	*.001*	*.001*	-	*.001*	.001	.001	.001
SD	*r*	.220	.334	.378	.510	.537	1	-.441	.449	.349
	p	.054	.002	.001	.001	*.001*	-	*.001*	*.001*	*.002*
SecA	*r*	-.161	-.359	-.403	-.489	-.626	-.441	1	-.641	-.543
	p	.153	*.001*	.001	.001	.001	*.001*	-	.001	.001
AvA	*r*	.052	.313	.380	.485	.670	.449	-.641	1	.561
	p	.649	*.005*	.001	.001	.001	*.001*	.001	-	.001
AxA	*r*	,214	.282	.574	.650	.696	.349	-.543	.561	1
	p	.056	*.011*	.001	.001	.001	*.002*	.001	.001	-

DIF = difficulty identifying feelings, DDF = difficulty describing one's feelings to others, EOT = externally-oriented thinking, AT = alexithymia (total), IPV = intimate partner violence, SD = somatoform disorders, SecA = secure attachment, AvA = avoidant attachment, AxA = anxious attachment, r = Pearson's correlation (two-tailed), p = statistical significance (two-tailed).

Table 3. Multivariate MANOVA analysis*

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	*p*	Observed power
1.Secure attachment type (SecA)							
	EOT	687.148	1	687.148	12.447	.001	.934
IPV	AT	3467.953	1	3467.953	19.206	.001	.990
	SD	266.927	1	266.927	30.764	.001	1.000
SecA	DDF	815.166	19	42.903	2.328	.008	.975
2.Avoidant attachment type (AvA)							
	EOT	1443.617	1	1443.617	19.688	.001	.992
IPV	AT	3009.693	1	3009.693	16.219	.001	.977
	SD	260.988	1	260.988	25.791	.001	.999
	DIF	1960.914	19	103.206	2.332	.008	.976
3.Anxious attachment style (AxA)							
IPV	AT	1130.290	1	1130.290	7.516	.008	.768
	SD	324.106	1	324.106	40.829	.001	1.000

*) only significant differences are figured. DIF = difficulty identifying feelings, DDF = difficulty describing one's feelings to others, EOT = externally-oriented thinking, AT = alexithymia (total), IPV = intimate partner violence, SD = somatoform disorders, SecA = secure attachment, AvA = avoidant attachment, AxA = anxious attachment; p = statistical significance (two-tailed).

cause-effect mechanisms governing these associations are still under debate, as it is often notoriously difficult to isolate a single symptom (e.g., alexithymia) and stop its subsequent implications for IPV. To further investigate this type of research question, large longitudinal cohort studies should be developed and implemented. These protocols should also consider the role of other important factors, such as personality type, education, and culture.

Our study has several limitations, among which the most important are its cross-sectional design, the use of self-reporting tools and the small number of participants. In conducting our research, we investigated only secondary alexithymia (the result of a traumatic experience) and not primary alexithymia (a trait associated with dysfunctional early family relationships).

Irrespective of this, we believe that our findings could contribute to a better understanding of the complex relationships between somatization, affect regulation, attachment and intimate partner violence. They equally support the need for early psychological interventions for IPV victims, which should address not only the direct emotional impact of IPV, but also its effect on somatic functioning, the individual's attributional abilities and the development of internal resources to cope.

Conflict of interest

The authors declare that they have no conflict of interest.

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