Disturbed Sleep and Victimization

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Disturbed sleep and sleep disorders

• There is a wide range of disorders that are included in the term disturbed sleep.
  – Sleep apnea
  – Restless leg syndrome
  – Insomnia, either secondary to other disorders or as primary condition

• In fact, the nosology of sleep disorders is complicated by widely varying terminologies and diagnostic criteria that are vague (Edinger, Bonnet, Bootzin, Dogramji, Dorsey, Espie, Jamieson, McCall, Morin, & Stepanski, 2004).

• Differentiating sleep disturbance as a primary or secondary to other disorders is increasingly difficult.
• Chronic sleep loss and primary sleep disorders have negative effects on the overall health of some 70 million individuals in the United States (Lamberg, 2004).

• Insomnia has a lifetime prevalence of 10% - 35% of the population with much of the variance attributable to chronic versus acute episodes (Breslau, Roth, Rosenthal, & Andreski, 1996; Drake, Roehrs, & Roth, 2003).

• The negative effects of insomnia include decreased daytime functioning, lost productivity, increased accidents, and decreased quality of life (Drake, Roehrs, & Roth, 2003).
• Numerous conditions have been associated in sleep/health interactions and outcomes including:
  – obesity, diabetes, other primary sleep disorders such as sleep apnea, alcohol and/or drug abuse, depression, other mental disorders, chronic pain, and environmental factors such as stressors including interpersonal victimization (Edinger, Bonnet, Bootzin, et al., 2004; Patel, Ayas, Malhotra, White, Schemhammer, et al., 2004).

• Sleep disturbance is more prevalent among women than men, much of that difference may be due to differences in the prevalence of depression and anxiety (Ohayon, 2002; Voderholzer, Anam Al-Shajlawi, Weske, Feige, & Riemann, 2003). However, studies of gender differences in disturbed sleep have not accounted for partner violence victimization.

• Research on stress and sleep disturbances has not always indicated a direct causal relationship (Shaver, Johnston, Lentz, & Landis, 2002), but studies that carefully assess the number of stressors and perceived lack of control over circumstances show more positive associations of stress with disturbed sleep (Morin, Rodrigue, & Ivers, 2003).

• There is mounting evidence of the associations of disturbed sleep and childhood and adult victimization (Campbell, 2002; Campbell & Kendall-Tackett, 2005; Logan, Walker, Jordan, & Leukefeld, 2006).
• Increased stress and activation of the HPA axis can lead to central nervous system arousal and sleeplessness (Drake, Richardson, Roehrs, Scofield & Roth, 2004; Vgontzas & Chrousos 2002; Vgontzas, Tzigos, & Bixler, et al., 1998).

• By some accounts, stressful conditions are the most cited reason for sleep problems. Profound stressful conditions have the greatest impact on disturbed sleep (Dement & Vaughn, 1999; Shaver, Johnston, Lentz, & Landis, 2002).

• Given the associations of HPA axis arousal with sleep disorder, the failure to consider victimization stress as a contributor is curious – particularly in light of the traditional gender distribution of sleep disorder.

• While sleep disorders and partner violence have both been associated with mental health problems, proximal environmental contributions to sleep loss may be critical to the understanding of the full extent and implications of sleep disturbance among women with victimization - independent of other mental or physical disorders that may themselves be related to the same stressors.
• Studies with small to moderate sample sizes have shown a variety of sleep problems among women with partner violence victimization in shelter settings (Humphreys, Lee, Neylan, & Marmar, 1999; Lowe, Humphreys, & Williams, 2007; Rasmussen, 2007; Saunders, 1994).

• However, most of these studies have had convenience samples among clinical populations and they did not control for conditions that may contribute to sleep disturbance.

• In addition, many included women in a controlled environment where sleep could have been affected positively or negatively from their normal environment.
• In fact, sleep loss, while being symptomatic of mental disorders, may be prodromal and even a precipitating factor for depression or it may be a residual symptom that poses additional risk for relapse and may also result in increased sensitivity to physical pain (Ohayon & Roth, 2003; Perlis, Giles, Buysse, Tu, & Kupfer, 1997; Roehrs, Hyde, Blaisdell Greenwell, & Roth, 2006).

• In fact individuals with insomnia have been found to be 3 to 4 times more likely to develop depression than individuals without insomnia (Breslau, Roth, Rosenthal, & Andreski, 1996; Perlis, et al., 1997).

• There is limited research examining sleep disturbance independent of mental disorders and among women with victimization who are not in clinical or controlled environments.
Purpose

• The purpose of this study was to further examine the relationship of disturbed sleep to violence experiences among women who had received a protective order against a male intimate partner. Our first study examined sleep disturbance among women shortly after obtaining a protective order.

• The fundamental question for this study was: *Is disturbed sleep among women with violence victimization primarily a function of their mental health problems or is sleep disturbance primarily associated with victimization?*

• Answers to this question have implications for medical and behavioral health care practitioners who may need to assess and treat sleep disturbances, which, untreated, may reduce coping and safety seeking capacities.
Methodology

• This was a baseline and 12-month follow-up study of women who had obtained a protective order due to partner violence.

• Baseline interviews with 756 women within 6 month of obtaining the order
  • 377 rural
  • 379 urban
  • Had protective order in place (February 2001 to October 2003)

• Baseline interviews included information on victimization, health, mental health, substance abuse, children, and family and other social supports.

• All data were self-reports using validated as well as adapted instruments.
Procedure

• Participants were recruited after being granted a protective order by the court in 4 different counties (3 Appalachian rural, 1 urban).

• Female interviewers gave brochures to women in court after they received the DVO.

• Contact information was gathered from interested participants, those not wishing to give their contact information were given a card/brochure about the study with a toll-free number to call if interested.

• Face-to-face interviews were completed approximately five weeks after obtaining the DVO,

• Baseline interviews lasted approximately 3-4 hours and began after informed consent was given.

• Participants were compensated for their time.
Procedure

• Court recruitment yielded a high participation rate.

• Of the women approached in court, 83.4% provided contact information, 2.4% initially refused participation, and 14.3% took information about the study but did not provide contact information.

• Of those with valid contact information and that were actively pursued, 73.5% completed the baseline interview. Of those that were not interviewed, 8.2% decided not to participate and 23.7% were never successfully contacted and/or scheduled.
Follow-up Sample

• Approximately one year after women participated in the first interview, follow-up interviews were conducted (M=11.69 months, SD = 1.31, range = 9 - 18).

• The follow up rate for the study was 94%, resulting in a follow-up sample size of N = 709.

• Intensive follow-up logs and tracking approaches to maintain contact with participants – even in remote rural area.
Measures

• **Social and demographic characteristics.** The following information was obtained: age, number of children, race, education level, employment status, income and relationship with partner from the Health Services Research Questionnaire (HSRQ) (Chitwood, McBride, Metsch, Comerford, & McCoy, 1998) and the Addiction Severity Index (ASI) (McLellan, Luborsky, O’Brien, & Woody, 1980).

• **Sleep.** Information was obtained on women’s sleep patterns based on the SF-36 (Ware & Sherbourne, 1992) and DSM-IV criteria (American Psychiatric Association, 1992) for insomnia, modified for this sample.

• **Physical Health.** Information on physical health was obtained by measures adapted from the HSRQ (Chitwood et al., 1998), the SF-36 (Ware & Sherbourne, 1992) and the ASI (McLellan et al., 1980).

• **Pain.** Pain measures were adapted from the SF-36 (Ware & Sherbourne, 1992) using a past week reference for the degree of difficulty or limitation in daily activities caused by pain.
Measures

- **Partner Violence** was examined using an instrument based on adaptations from questions were adapted from Tolman’s Psychological Maltreatment of Women Inventory (PMWI) (Tolman, 1989; 1999), the Conflict Tactics Scales (CTS & CTS2) (Straus, 1995; Straus, Hamby, Boney-McCoy, & Sugarman, 1996), and approaches from a study of protective orders Harrell, Smith & Newmark, 1993) and pilot work with the target study population (Logan, Walker, Cole, Ratliff, & Leukefeld, 2003)
  - Physical/sexual violence items were weighted based on extant literature to better understand gradations in the severity of partner violence experiences.

- **Depression and PTSD** were measured with an adapted version of the Mini International Neuropsychiatry Interview (MINI) (Sheehan et al., 1997) and the Diagnostic Interview Schedule (DIS) Robbins, Helzer, Croughan, & Ratcliff, 1981).

- **Child Abuse** history was measured with single item questions developed in a pilot study (Logan et al., 2003) about childhood emotional, physical, and sexual abuse by parents or guardians.

- **Other Lifetime Victimization** was measured using selected measures from the CTS/CTS2 (Straus, 1995; Straus et al., 1996) and Tolman’s Psychological Maltreatment of Inventory (Tolman, 1989; 1999) inquiring about incidents involving relatives, strangers, and/or acquaintances.
Baseline Descriptives
(including the variables that were included in the model)
# Baseline Demographics

<table>
<thead>
<tr>
<th></th>
<th>N = 709</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>31.79</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>49.7%</td>
</tr>
<tr>
<td>Urban</td>
<td>50.3%</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>82.5%</td>
</tr>
<tr>
<td>African American</td>
<td>13.7%</td>
</tr>
<tr>
<td>Other</td>
<td>3.8%</td>
</tr>
<tr>
<td><strong>Number of Children</strong></td>
<td>1.91</td>
</tr>
<tr>
<td><strong>Currently Pregnant</strong></td>
<td>5.5%</td>
</tr>
<tr>
<td>Income</td>
<td>N = 709</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Past Month Earnings (n = 35 – no income reported past month)</td>
<td>$1248.22</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>35.8%</td>
</tr>
<tr>
<td>Part-time</td>
<td>10.1%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>54.2%</td>
</tr>
<tr>
<td>Education History</td>
<td></td>
</tr>
<tr>
<td>Less than HS (no GED)</td>
<td>28.9%</td>
</tr>
<tr>
<td>HS grad, GED</td>
<td>33.3%</td>
</tr>
<tr>
<td>Some college or more</td>
<td>37.8%</td>
</tr>
<tr>
<td>Relationship with Partner</td>
<td></td>
</tr>
<tr>
<td>Married to partner</td>
<td>53.7%</td>
</tr>
<tr>
<td>Cohabited with partner</td>
<td>42.7%</td>
</tr>
</tbody>
</table>
## Physical Health at Baseline

<table>
<thead>
<tr>
<th>Measure</th>
<th>N = 709</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Global health rating</strong> (potential range 0 – 16; higher score, better health)</td>
<td>9.04 (SD = 4.49)</td>
</tr>
<tr>
<td><strong>Average number of days with medical problems – Past 30 days</strong></td>
<td>6.77 (SD = 9.94)</td>
</tr>
<tr>
<td><strong>Average number of prescription meds taken for physical problem – Past 30 days</strong></td>
<td>1.6 (SD = 2.29)</td>
</tr>
<tr>
<td><strong>Has a chronic/permanent medical problem</strong></td>
<td>53.2%</td>
</tr>
<tr>
<td><strong>Average pain rating – Past week</strong> (potential range 0 – 5; higher scores, more pain)</td>
<td>2.00 (SD = 1.49)</td>
</tr>
</tbody>
</table>
Mental Health at Baseline
(N = 709)

- PTSD Ever: 68.0%
- PTSD (30 days): 39.2%
- Depression Ever: 74.2%
- Depression (30 days): 50.6%
### DVO Partner Victimization (Ever, Baseline)

<table>
<thead>
<tr>
<th>Category</th>
<th>N = 709</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Psychological Abuse</td>
<td>100%</td>
</tr>
<tr>
<td>Experienced Stalking</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Severity of Physical Violence</strong> (15 tactics, potential range 0 – 49; higher scores, more severe physical violence)</td>
<td>17.18 (SD = 11.4)</td>
</tr>
<tr>
<td><strong>Severity of Sexual Assault</strong> (5 tactics, potential range 0 – 6; higher scores, more severe sexual assault)</td>
<td>1.92 (SD = 3.1)</td>
</tr>
</tbody>
</table>
Other Partner Victimization
(Ever, at Baseline, N = 709)

- Stalked: 16.2%
- Physical: 34.8%
- Sexual: 13.0%
Childhood & Other Stranger, Relative, Acquaintance Adulthood Victimization (Baseline)

<table>
<thead>
<tr>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced Childhood – Emotional, Physical, Sexual Abuse</td>
<td>49.9%</td>
</tr>
<tr>
<td>Experienced Stranger, Relative Acquaintance Physical/Sexual Assault as an Adult</td>
<td>25.7%</td>
</tr>
</tbody>
</table>

N = 709
Follow-up Descriptives
## Physical Health at Follow-up

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global health rating (potential range 0 – 16; higher score, better health)</td>
<td>9.03 (SD = 4.59)</td>
</tr>
<tr>
<td>Average number of days with medical problems – Past 30 days</td>
<td>8.87¹ (SD = 11.59)</td>
</tr>
<tr>
<td>Average number of prescription meds taken for physical problem – Past 30 days</td>
<td>1.92 (SD = 2.65)</td>
</tr>
<tr>
<td>Average pain rating – Past week (potential range 0 – 5; higher scores, more pain)</td>
<td>2.11 (SD = 1.42)</td>
</tr>
</tbody>
</table>

¹Up from 6.77 at baseline - ***p<.001, t= -4.63 df =708
Mental Health at Follow-up (N=709)

- PTSD Since Baseline: 37.7%
- PTSD (30 days): 24.3%
- Depression Since Baseline: 54.3%
- Depression (30 days): 35.0%
Comparison of PTSD and Depression in the Baseline and Follow-up Periods (N = 709)
<table>
<thead>
<tr>
<th>Relationship with the DVO Partner Since Baseline</th>
<th>N = 709</th>
</tr>
</thead>
<tbody>
<tr>
<td>Been in a relationship with the DVO partner since baseline</td>
<td>33.1%</td>
</tr>
<tr>
<td>Average number of months spent with DVO partner (including those in and not in relationship with partner)</td>
<td>2.57 (SD = 4.24)</td>
</tr>
<tr>
<td>DVO Partner Victimization after the Protective Order</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>N = 709</strong></td>
<td></td>
</tr>
<tr>
<td>Experienced Stalking</td>
<td>29.8%</td>
</tr>
<tr>
<td><strong>Severity of Physical Violence</strong></td>
<td>3.37</td>
</tr>
<tr>
<td>(15 tactics, potential range 0 – 49; higher scores, more severe physical violence)</td>
<td>(SD = 7.4)</td>
</tr>
<tr>
<td>Severity of Sexual Assault</td>
<td>.59</td>
</tr>
<tr>
<td>(5 tactics, potential range 0 – 6; higher scores, more severe sexual assault)</td>
<td>(SD = 1.7)</td>
</tr>
</tbody>
</table>
Sleep Characteristics at Follow-up
Sleep Descriptors
(N = 708)

Average hours of sleep per night

6.1
Other Descriptives of Sleep Characteristics

• To examine the sleep hours of women in this protective order sample in relation to general health norms and to other studies, we partitioned them into three groups.

• The three groups roughly parallel some of the major division points in a large cancer study that also included self-reported hours of sleep using the same measure we used in this study.
Duration of Sleep Among Women with Protective Orders and A National General Population of Women

Kripke, Garfinkel, Wingard, Klauber, & Marler, 2002

<table>
<thead>
<tr>
<th>Duration of Sleep</th>
<th>Partner Violence Sample</th>
<th>National Cancer Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Hours or Less</td>
<td>37.1%</td>
<td>4.3%</td>
</tr>
<tr>
<td>5.5 - 7.5 Hours</td>
<td>43.5%</td>
<td>19.3%</td>
</tr>
<tr>
<td>8 Hours or More</td>
<td>47.7%</td>
<td>46.3%</td>
</tr>
</tbody>
</table>

N=640
N=636,095
Other Past 30 Day Sleep Descriptors (N = 640)\(^a\)

- **Rating of Sleep Quality (1-4, lower better):** 2.7
- **# days trouble staying awake:** 4.0
- **# days got the amount of sleep needed:** 9.7

\(^a\) n = 69 cut from this analysis due to missing data on the sleep descriptor questions
Average # of Days in the Past 30
(N = 640)

- ** Got Needed Amount of Sleep**: 3.0 (5 hours or less), 11.7 (Over 5 to 7.5 hours), 17.9 (8 or more hours)
- ** Trouble Staying Awake**: 5.8 (5 hours or less), 3.0 (Over 5 to 7.5 hours), 2.5 (8 or more hours)

* p < .01, ** p < .001

** significant linear trend – all groups different from one another at p<.01
*** 5 hours or less group significantly different at p<.01 compared with both other sleep groups
Average days of sufficient sleep

• Therefore, 37% of the women reported that in the past 30 days they got the amount of sleep they needed *only 3 days out of the past 30 days*.

• 43.5% got enough sleep *only about 12 days out of the past 30 days* and,

• 19% got enough sleep *18 out of the past 30 days*.

• Overall, the entire group did **NOT** get enough sleep *17.8 days* out of the past 30 days or 60% of the time.
### Example Sleep Characteristics

<table>
<thead>
<tr>
<th>Average # of nights in the past 30…</th>
<th>N = 640</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had trouble falling asleep</td>
<td>12.1</td>
</tr>
<tr>
<td>Did not get enough rest or sleep</td>
<td>17.8</td>
</tr>
<tr>
<td>Awakened in the middle of the night and/or early morning</td>
<td>18.9</td>
</tr>
<tr>
<td>Had bad dreams</td>
<td>5.7</td>
</tr>
<tr>
<td>Bodily pain interfered with sleep</td>
<td>8.0</td>
</tr>
<tr>
<td>Taken medication to help you sleep</td>
<td>6.6</td>
</tr>
<tr>
<td>Other reasons kept you from getting a full night’s sleep (e.g., children sick)</td>
<td>9.6</td>
</tr>
</tbody>
</table>
Multivariate Analysis
Multiple Regression Model

Predictors:

- **Socio-demographic**
- **Sleep** (average number of hours of sleep per night (in the past 30 days) at baseline)
- **Physical Health** (including nonmalignant pain)
- **Mental Health**
- **Prior Victimization History** (child, adult—(partner, acquaintance, and stranger)—psychological, physical, sexual)
  - Index of the severity of physical and sexual partner victimization (ever and after obtaining the protective order, also controlled for stalking and number of months spent in the relationship after the protective order to the follow up)
Multiple Regression Model

• Dependent Variable: Average number of hours of sleep per night (in the past 30 days) at follow-up

• Overall Model: Significant, \( F(32, 687) = 7.430, p<.001 \)

• The model accounted for 27% of the variance in number of hours of sleep per night at the follow-up interview.
Multivariate: Significant Predictors

• Three significant predictors of self-reported number of hours of sleep per night at the follow-up interview:
  – Severity of physical violence ever in the relationship with the DVO partner ($B = -.103$, $t = -2.636$, $p<.01$)
  – The number of hours of sleep per night reported at baseline ($B = .426$, $t = 11.320$, $p<.001$)
  – The number of depression symptoms in the past two weeks reported at follow-up ($B = -.071$, $t = -.108$, $p<.05$)
Discussion

• The finding that lifetime physical abuse and previously reported disturbed sleep predict continued sleep loss is of great importance in understanding the effects and coping capacities of women with extreme victimization.

• While there was still a significant association of sleep loss with depression, this study supports other recent research suggesting that sleep loss cannot be accounted for simply as a symptom of mental disorder (Espie, 2002).

• The relationship between victimization and sleep loss appears to be robust, and may be mediated by factors such as increased arousal states.

• In a new study, the fear of the loss of vigilance was found to be the mediating factor for sleep disorder among panic and GAD patients (Tsao & Craske, 2003).

• This study suggests that disturbed sleep may become a chronic condition for women with victimization – a problem that exerts a separate effect on physical health (Kendall-Tackett, 2007).

• Furthermore, disturbed sleep is a frequently undiagnosed condition among women with violence victimization experiences (Kendall-Tackett, 2007).

• Fear has been noted in smaller studies of women in shelters and this fear-sleep relationship was noted even after leaving the violent partner (Lowe, et al., 2007).
Discussion

• This study also dissociates sleep loss from PTSD, thus suggesting that disturbed sleep among violence victims may be a significant health factor independent of trauma disorders.

• Of central concern, sleep loss has been shown to negatively effect capacity for insight and awareness – two elements of problem solving that are critical for victims in seeking safety (Wagner, Gais, Haider, Verleger, & Born, 2004).

• This study suggests that while violence victimization may in some sense predict sleep loss, disturbed sleep also takes on a life of its own and suggests a more chronic dysregulation once the pattern is disturbed.

• Disturbed sleep may then result in negative effects to health, mental health, and diminished capability for safety seeking or problem solving.
Clinical and Other Implications

• While this study disentangled sleep disturbance from depression and other mental disorders, it is still embedded in a constellation of problems that contribute to and result from victimization.

• This study was developed from a complex heuristic model of the various contributing and resulting factors related to victimization.

• What the sleep findings raise is a question about the degree to which sleep loss is both a consequence of victimization and a contributing factor to other mental health and health problems.

• The conceptual model we used is a cat’s cradle of interlinking problems areas across the health, mental health, substance abuse, lifestyle, and internal as well as social/cultural contextual factors.
Conceptual Model for Understanding Victimization

(Logan, Walker, Jordan, & Leukefeld, 2006)
Conceptual Model for Understanding Victimization

This text draws together over 2,000 research articles and texts on victimization and related findings.

The intent of the book was to reduce the tendency in the literature to narrow in on favored hypotheses and specific problems that can be attributed to violence.

This text set out to show the interrelatedness of both contributing factors and consequences of victimization.
Limitations

• While the use of a protective order sample better represents the spectrum of intimate partner violence victimization than most clinical or shelter samples, such a sample may still focus on more severe cases.

• Further, the use of a protective order sample does not allow generalizations to all intimate partner violence victims, as women who use the justice system may be different from the larger population.

• In addition, sleep measures were entirely self-reported without independent laboratory validation.

• However, better understanding of disturbed sleep among high risk populations may depend on greater and more specialized use of self-report measures because laboratory findings are far removed from the many situational factors that contribute to the development and maintenance of sleep problems.

• Even with these limitations, this study contributes to the understanding of the persistence of disturbed sleep and its associations with violence victimization.
Conclusion

• This is the first large scale study of partner violence victimization that examined sleep disturbance controlling for major mental health and physical health problems.

• This study contributes to the understanding of sleep disturbance as a long term and enduring effect of victimization.

• It also suggests that once the sleep cycle has been disturbed due to victimization it may not self correct even when the imminent threat of partner violence has been reduced or removed.

• The study also raises several concerns about the measurement of sleep disturbance.

• While self-reports may be inaccurate, in vivo sleep behavior is difficult to study objectively. Even the use of wrist band devices to measure diurnal body movement poses a risk for partner violence victims. Violent partners can interpret diaries, recording devices, monitoring devices, and other measuring approaches as a threat and these can trigger violence.
Ideally, closer measurement of sleep behavior in vivo might involve collecting self-reports several times in conjunction with other reported experiences and contexts.

For example, if sleep behavior could be examined through 4-6 data collection points over a 6-month period along with other violence experiences and other contextual factors (sick children, change in work hours, occurrence of pain, illness, etc.) a more accurate portrait of sleep may emerge.

However, even with these limitations, this study suggests that clinical practice should consider close assessment of sleep disorder as an independent condition among violence victims rather than simply seeing it as a symptom of PTSD or depression.

Lastly, the question about the role of the fear of the loss of vigilance should be explored in studies of sleep disturbance among victims of partner violence.
References


• Ohayon MM. (2002). Epidemiology of insomnia: what we know and what we still need to learn. *Sleep Medicine Review, 6*, 97-111


