

Sleep disturbances and nightmares in victims of sexual abuse with post-traumatic stress disorder: an analysis of abuse-related characteristics

Geneviève Belleville, Mylène Dubé-Frenette and Andréanne Rousseau

School of Psychology, Laval University, Quebec City, Canada

ABSTRACT

Background: Sexual abuse victims often experience symptoms of post-traumatic stress disorder (PTSD), including sleep disturbances.

Objective: To investigate whether or not characteristics of sexual abuse are associated with sleep disturbance, and to explore whether correlates of sleep disturbance are distinguishable from those of PTSD symptom severity.

Method: Forty-four adult sexual abuse victims seeking treatment for PTSD and sleep disturbances completed validated self-report questionnaires assessing sleep, nightmares, and PTSD symptoms.

Results: Age at time of sexual abuse contributed to the severity of distress associated with nightmares, whereas the number of perpetrators contributed to the frequency of nightmares. Sleep disturbances had different correlates compared to those of overall PTSD symptoms.

Conclusions: The present study highlighted that age at time of abuse and number of offenders may account for variability in sleep disturbances. Exploration of characteristics of sexual abuse could help clinicians to quickly identify who could benefit the most from targeting nightmares and other sleep disturbances in treatment.

Trastornos del Sueño y Pesadillas en víctimas de Abuso Sexual con Trastorno de Estrés Postraumático: un Análisis de las Características Relacionadas con el Abuso

Antecedentes: Las víctimas de abuso sexual a menudo experimentan síntomas de trastorno de estrés postraumático (TEPT), incluidos los trastornos del sueño.

Objetivo: Investigar si las características del abuso sexual están o no asociadas con trastornos del sueño y explorar si los correlatos de los trastornos del sueño se distinguen de los de la gravedad de los síntomas del TEPT.

Método: Cuarenta y cuatro adultos víctimas de abuso sexual que buscan tratamiento para el TEPT y trastornos del sueño completaron cuestionarios de autoinforme validados que evalúan el sueño, las pesadillas y los síntomas del TEPT.

Resultados: La edad en el momento del abuso sexual contribuyó a la severidad de la angustia asociada con las pesadillas, mientras que el número de perpetradores contribuyó a la frecuencia de las pesadillas. Las alteraciones del sueño tenían correlaciones diferentes en comparación con las de los síntomas generales de TEPT.

Conclusiones: El presente estudio destacó que la edad en el momento del abuso y la cantidad de perpetradores pueden explicar la variabilidad en los trastornos del sueño. La exploración de las características del abuso sexual podría ayudar a los médicos a identificar rápidamente quién podría beneficiarse al máximo al focalizarse en pesadillas y otros trastornos del sueño durante el tratamiento.

患创伤后应激障碍的性虐待受害者的睡眠障碍和噩梦：对虐待相关特征的分析

背景：性虐待受害者经常出现创伤后应激障碍（PTSD）的症状，包括睡眠障碍。

目的：本研究调查性虐待的特征是否与睡眠障碍有关，并探讨睡眠障碍与PTSD症状严重程度的相关变量是否不同。

方法：四十四名寻求治疗PTSD和睡眠障碍的成年性虐待受害者完成了经过验证的自评问卷，评估了睡眠、噩梦和PTSD症状。

结果：性虐待时的年龄影响了与噩梦相关的痛苦的严重程度，而肇事者的数量影响了噩梦的频率。与总体PTSD症状相比，睡眠障碍具有不同的相关变量。

结论：本研究强调，经历性虐待时的年龄和罪犯的数量可能是睡眠障碍的影响因素。探索性虐待的特征可以帮助临床医生快速确定谁可以从治疗的噩梦和其他睡眠障碍中获益最多。

ARTICLE HISTORY

Received 8 August 2018

Revised 11 January 2019

Accepted 29 January 2019

KEYWORDS

Post-traumatic stress disorder; sexual abuse; nightmares; sleep disturbance; sleep quality

PALABRAS CLAVE

trastorno de estrés postraumático; Abuso sexual; Pesadillas; alteración del sueño; calidad de sueño

关键词

创伤后应激障碍; 性虐待; 恶梦; 睡眠障碍; 睡眠质量

HIGHLIGHTS

- In victims of sexual abuse with post-traumatic stress disorder and sleep disturbances, characteristics of sexual abuse can predict the severity and frequency of sleep disturbances.
- Adult victims who were sexually abused during childhood or adolescence reported higher levels of distress associated with nightmares than did victims abused during adulthood.
- Victims assaulted by multiple offenders at the same time exhibited higher frequencies of nightmares compared to victims assaulted by a single offender.

1. Introduction

Many studies have investigated the relationship between sexual abuse characteristics and post-traumatic stress disorder (PTSD). Adults who were sexually abused during childhood are more likely to develop a mental disorder than are victims who were assaulted in adulthood (Burnam et al., 1988). Greater frequency of abuse episodes and higher number of perpetrators are correlated with negative outcomes, and victims of relatives report more PTSD symptoms than do victims of abuse by strangers or acquaintances (Filipas & Ullman, 2006; Ullman & Brecklin, 2002).

Less is known about characteristics of sexual abuse that affect trauma-related sleep disturbances. Only two studies have shown that more severe abuse (e.g. in childhood and involving violence) is associated with more severe sleep disturbances (Heath, Bean, & Feinauer, 1996; Steine et al., 2012). Trauma-related sleep disturbances have a significant impact on the course of PTSD pathology, affecting symptom onset (Koren, Arnon, Lavie, & Klein, 2002), maintenance (Spoomaker & Montgomery, 2008), and resistance to treatment such as cognitive-behavioural therapy (CBT) (Galovski, Monson, Bruce, & Resick, 2009; Zayfert & DeViva, 2004). A better understanding of the relationship between characteristics of sexual assault and sleep disturbances, and whether it differs from that between these characteristics and other symptoms of PTSD, would be useful to inform the risk of developing PTSD in victims of sexual abuse and to guide assessment and treatment.

The main objective of the present study was to determine whether abuse-related characteristics predicted sleep disturbances in a sample of sexual abuse victims suffering from PTSD and sleep disturbances. Abuse in childhood or adolescence, by a family member or a partner, repeated sexual abuse, and abuse by multiple perpetrators were expected to contribute to greater sleep difficulties than sexual abuse during adulthood, by a stranger or an acquaintance, one incident of abuse, and abuse by a single perpetrator. A secondary objective was to explore whether abuse-related characteristics that predict sleep disturbances were different from those that predict overall PTSD symptom severity.

2. Method

2.1. Participants and procedure

This study analysed baseline data collected in the context of a larger trial of psychological treatment for PTSD (Belleville, Dube-Frenette, & Rousseau, 2018). The Laval University review board accepted the protocol, and each participant signed a consent form. Inclusion criteria were as follows: (1) over 18 years of age; (2) able to understand and speak French; (3) history of unwanted sexual

experience; (4) PTSD diagnosis according to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders, Text Revision (DSM-IV-TR)* (APA, 2000); (5) sleep complaints, as established by a Pittsburgh Sleep Quality Index (PSQI) (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) score of 5 or more and a mean of one or more nightmares per week for at least 1 month; (6) psychotropic medication dosage that had been unchanged for the past 3 months (if the participant reported using a psychotropic medication); and (7) available for in-person sessions. Exceptions were made for two participants who scored lower than 5 on the PSQI but reported other significant sleep difficulties (i.e. frequent nightmares, nightmare distress, and disruptive nocturnal behaviours). Exceptions were also made for four participants who reported fewer than one nightmare per week in the past month; these participants also reported clinically significant sleep difficulties, including nightmare distress, poor sleep quality, and disruptive nocturnal behaviours. Exclusion criteria included: (1) past or present psychotic episode, bipolar disorder, or organic mental disorder (e.g. dementia); (2) current substance use disorder; (3) sleep apnoea diagnosis; (4) use of prazosin to treat nightmares; (5) currently in treatment for psychological difficulties; and (6) suicidal thoughts requiring immediate intervention.

2.2. Measures

A clinical assessment included the Clinician-Administered PTSD Scale (CAPS) (Blake et al., 1995) and the Structured Clinical Interview for DSM-IV for Axis I Disorders (SCID-I) (First, Spitzer, Gibbon, & Williams, 1996). Data on characteristics of sexual abuse (age at time of sexual abuse, frequency of sexual abuse, victim-perpetrator relationship, and number of perpetrators) were collected by the interviewer from the open-ended questions included in the CAPS. We also used the CAPS total score (17 items minus the two sleep-related items) to measure clinician-rated PTSD symptom severity.

The Nightmare Distress Questionnaire (NDQ) (Belicki, 1992) includes 11 items; the total score ranges from 0 to 52, with higher scores indicating greater distress associated with nightmares. A non-validated French translation was used. Questions were added to assess nightmare frequency (number of nights with nightmares per month).

The Pittsburgh Sleep Quality Index (PSQI) (Buysse et al., 1989) includes 19 items; the total score ranges from 0 to 21, with higher scores indicating poorer sleep quality. A validated French-language version was used (Blais, Gendron, Mimeault, & Morin, 1997).

The Pittsburgh Sleep Quality Index – Addendum for PTSD (PSQI-A) (Germain, Hall, Krakow, Shear, &

Buysse, 2005) includes seven items; the total score ranges from 0 to 21, with higher scores indicating more frequent disruptive nocturnal behaviours associated with PTSD. A validated French-language version was used (Ait-Aoudia et al., 2013).

The Modified PTSD Symptom Scale – Self Report (MPSS – SR) (Falsetti, Resnick, Resick, & Kilpatrick, 1993) includes 17 items; the total score ranges from 0 to 119. For the purpose of this study, scores excluded the two sleep-related items. A validated French-language version was used (Guay, Marchand, Iucci, & Martin, 2002).

2.3. Data analyses

Correlations were computed between dependent variables (scores on the NDQ, PSQI, PSQI-A, CAPS, and MPSS-SR, and nightmare frequency) and dichotomized characteristics of sexual abuse: age at time of sexual abuse (< 18 years or \geq 18 years), frequency of sexual abuse (once or repeated), victim–perpetrator relationship (family member/partner or stranger/acquaintance), and number of perpetrators (one or multiple). Correlations were also computed between outcomes and participants' current age, gender, and level of education.

When significant correlations were observed between outcomes and characteristics of sexual abuse, standard regression analyses were performed to assess the contribution of these characteristics to the associated outcome. When more than one characteristic was correlated with an outcome, a hierarchical model of regression was computed, where each abuse characteristic was entered as a single block. Order of entry was determined by the

strength of the correlations. When correlation analyses identified potential confounding variables (age, gender, and education), they were automatically included in the first block. Sample size was deemed satisfactory, with more than 10 participants per predictor for each analysis.

3. Results

3.1. Sample description

The final sample included 44 sexual abuse victims with PTSD, comprising 39 women and five men (Figure 1; Table 1). Participant age ranged from 19 to 59 years. On average, participants reported 19 nightmares per month.

3.2. Objective 1: do abuse-related characteristics predict sleep disturbances?

The NDQ total score was correlated with age at time of sexual abuse and with victim–perpetrator relationship (Table 2): participants who reported an abuse before the age of 18 (compared with an abuse at 18 and older) and perpetrated by a family member or a partner (compared with an abuse perpetrated by a stranger or an acquaintance) had more distress associated with nightmares. The regression model including only age at time of sexual abuse was statistically significant, and showed that it accounted for 9.9% of variance in distress associated with nightmares [$F(1,42) = 5.715, p = .021$] (Table 3). The addition of victim–perpetrator relationship in the model did not significantly increase the capacity of the model to predict distress associated with nightmares (R^2 change = .044, $p = .152$).

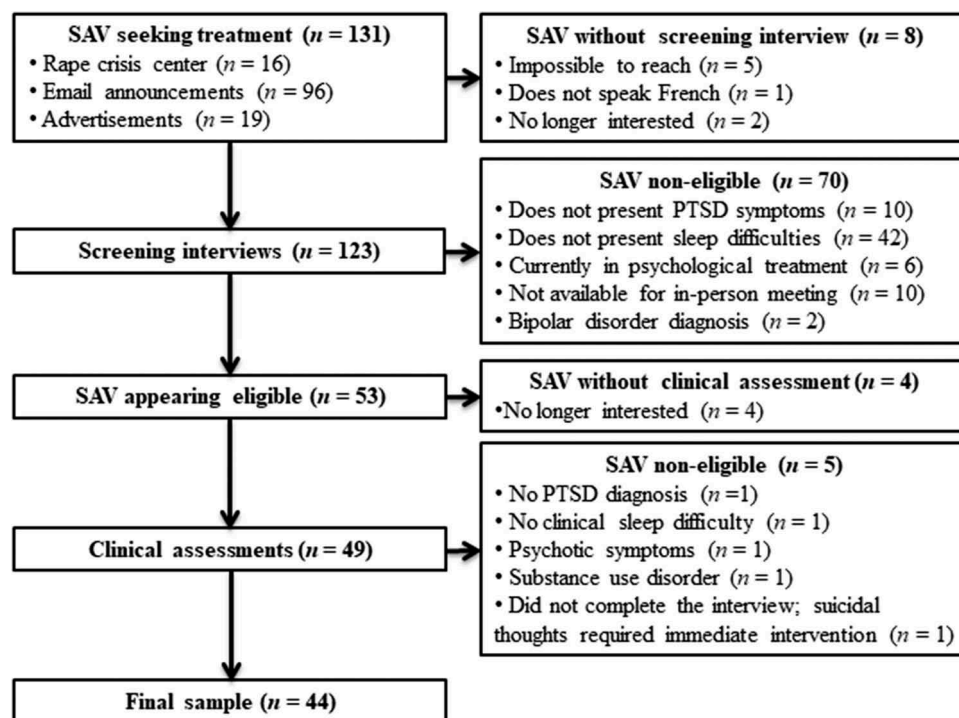


Figure 1. Participant recruitment flowchart. PTSD, post-traumatic stress disorder; SAV, sexual abuse victims.

Table 1. Participants' sociodemographic and clinical characteristics ($N = 44$).

Variable	<i>n</i>	%
Gender		
Female	39	88.6
Male	5	11.4
Work status		
Employed	13	29.5
Unemployed	7	15.9
Student	24	54.5
Civil status		
Married or common-law	10	22.7
Divorced, separated, or widowed	3	6.8
Single	31	70.5
Education		
College degree (or higher)	34	77.3
Age at time of sexual abuse		
< 18 years	28	63.6
≥ 18 years	16	36.4
Frequency of sexual abuse		
Once	16	36.4
Repeated	28	63.6
Number of perpetrators		
One	40	90.9
Multiple	4	9.1
Victim–perpetrator relationship		
Family member or partner	25	56.8
Stranger or acquaintance	19	43.2
Comorbid anxiety and/or major depressive disorder	19	43.2
Use of psychotropic medication	19	43.2
	<i>M (SD)</i>	<i>Range</i>
Current age (years)	30.73 (10.15)	19–59
NDQ total score	25.69 (6.57)	7–40
No. of nightmares per month	17.88 (14.52)	2–60
No. of nights with nightmares per month	13.26 (7.09)	2–31
PSQI total score	11.50 (3.97)	3–19
PSQI-A total score	10.01 (4.71)	1–19
CAPS total score ^a	55.73 (17.77)	27–90
MPSS-SR total score ^a	59.15 (19.48)	16–104

CAPS, Clinician-Administered Scale for PTSD; MPSS-SR, Modified PTSD Symptom Scale – Self-Report; NDQ, Nightmare Distress Questionnaire; PSQI, Pittsburgh Sleep Quality Index; PSQI-A, Pittsburgh Sleep Quality Index – Addendum for PTSD; PTSD, post-traumatic stress disorder.

^aComputed without including items 2 (recurrent distressing dreams of the event) and 13 (difficulty falling or staying asleep).

Nightmare frequency was correlated with the number of perpetrators: participants who reported an abuse with multiple perpetrators (compared with an abuse with a single perpetrator) had more frequent nightmares. Regression analysis showed that the number of perpetrators accounted for 9.6% of the variance in nightmare frequency [$F(1,41) = 5.442$, $p = .025$] (Table 3).

The PSQI total score was correlated with current age and the frequency of sexual abuse (Table 2): older age and repeated abuse (compared to a single abuse) was associated with poorer sleep quality. The regression model including the two variables accounted for 21.6% of the variance in sleep quality [$F(2,41) = 6.909$, $p = .003$] (Table 3). Only the contribution of age was statistically significant; the contribution of frequency of sexual abuse did not reach the statistical significance criterion ($p = .07$).

There were no significant associations between the characteristics of sexual abuse and the PSQI-A total score.

3.3. Objective 2: are predictors of sleep disturbances different from predictors of PTSD symptom severity?

The CAPS total score was correlated with gender and victim–perpetrator relationship: women and participants who reported an abuse by a family member or a partner (compared with an abuse by a stranger or an acquaintance) had more severe clinician-rated post-traumatic stress symptoms (Table 2). The regression model including the two variables accounted for 21.0% of the variance in clinician-rated post-traumatic stress symptom severity [$F(2,41) = 6.731$, $p = .003$] (Table 4). The contributions of both gender and victim–perpetrator relationship were statistically significant.

The MPSS total score was correlated with victim–perpetrator relationship: participants who reported an abuse by a family member or a partner (compared with an abuse by a stranger or an acquaintance) had more severe self-rated post-traumatic stress symptoms (Table 2). Regression analysis showed that victim–perpetrator relationship accounted for 12.1% of the variance in self-rated post-traumatic stress symptom severity [$F(1,42) = 5.804$, $p = .020$] (Table 4).

4. Discussion

The main objective of this study was to investigate whether abuse-related characteristics predicted sleep disturbances in a sample of sexual abuse victims suffering

Table 2. Correlation coefficients between characteristics of participants and of sexual abuse and predicted variables.

Variable	Sleep disturbances				PTSD symptom severity	
	NDQ	NM frequency	PSQI	PSQI-A	CAPS	MPSS
Gender	.039	-.096	-.064	-.124	-.353*	-.133
Current age	.178	-.035	.438**	.237	.118	.226
Education	.146	.020	-.041	.194	.266	.149
Age at time of SA	-.346*	.068	.048	.034	.057	.028
Frequency of SA	.110	-.022	.385**	.215	.268	.208
Perpetrators	-.022	.342*	.020	.203	-.049	-.068
Relationship	.301*	-.023	.169	.214	.342*	.348*

Age at time of SA, age at time of sexual abuse (< 18 years or ≥ 18 years); CAPS, Clinician-Administered Scale for PTSD; Frequency of SA, frequency of sexual abuse (once or repeated); MPSS, Modified PTSD Symptom Scale – Self-Report; NDQ, Nightmare Distress Questionnaire; NM frequency, nightmare frequency (number of nights with nightmare per month); Perpetrators, number of perpetrators (one or multiple); PSQI, Pittsburgh Sleep Quality Index; PSQI-A, Pittsburgh Sleep Quality Index – Addendum for PTSD; PTSD, post-traumatic stress disorder; Relationship, victim–perpetrator relationship (family member/partner or stranger/acquaintance).

* $p < .05$, ** $p < .01$.

Table 3. Regression analyses of sleep disturbances.

Variable	<i>B</i>	<i>SE B</i>	β	<i>sr</i> ²
Distress associated with nightmares (NDQ)				
Age at time of SA	-4.674*	1.955	-.346	-.346 *
<i>R</i> ² = .120				
Adjusted <i>R</i> ² = .099				
<i>R</i> = .346*				
Nightmare frequency				
Number of offenders	8.263*	3.542	.342	.342*
<i>R</i> ² = .117				
Adjusted <i>R</i> ² = .096				
<i>R</i> = .342*				
Sleep quality (PSQI)				
Current age	.135*	0.057	.345	.349*
Frequency of SA	2.139†	1.180	.262	.272†
<i>R</i> ² = .252				
Adjusted <i>R</i> ² = .216				
<i>R</i> = .502**				

Age at time of SA, age at time of sexual abuse (< 18 years or ≥ 18 years); Frequency of SA, frequency of sexual abuse (once or repeated); NDQ, Nightmare Distress Questionnaire; PSQI, Pittsburgh Sleep Quality Index. **p* < .05, ***p* < .01, †*p* = .07.

from PTSD and sleep disturbances. The results partially confirmed our hypothesis: abuse during childhood or adolescence predicted greater distress associated with nightmares. Abuse by multiple perpetrators predicted more frequent nightmares. Repeated abuse was associated with poorer sleep quality; however, the predictive contribution of repeated abuse did not reach the criterion for statistical significance when age was included in the regression model. Disruptive nocturnal behaviours were associated with none of the studied characteristics of the abuse. Regarding the second objective, only victim–perpetrator relationship predicted PTSD symptom severity (either clinician-rated or self-reported).

These results are similar to those of Heath et al. (1996) and Stein et al. (2012), who found that abuse involving multiple perpetrators was associated with more severe insomnia symptoms and nightmares. Sexual abuse involving multiple perpetrators may increase perceived threat to life, which may subsequently increase the risk of sleep disturbances. Perceived threat to life may increase hyperarousal (Ehlers & Clark, 2000), which, in turn, may increase the probability of nightmares.

Table 4. Regression analyses of PTSD symptom severity (excluding sleep items).

Variables	<i>B</i>	<i>SE B</i>	β	<i>sr</i> ²
Clinician-rated PTSD symptom severity (CAPS)				
Gender	-19.994**	7.502	-.361	-.384*
Relationship	12.413*	4.807	.350	.374*
<i>R</i> ² = .247				
Adjusted <i>R</i> ² = .210				
<i>R</i> = .497**				
Self-reported PTSD symptom severity (MPSS)				
Relationship	13.544**	5.622	.348	.348*
<i>R</i> ² = .121				
Adjusted <i>R</i> ² = .101				
<i>R</i> = .348*				

CAPS, Clinician-Administered Scale for PTSD; MPSS, Modified PTSD Symptom Scale; PTSD, post-traumatic stress disorder; Relationship, victim–perpetrator relationship (family member/partner or stranger/acquaintance).

p* < .05, *p* < .01.

The present finding of greater distress associated with nightmares reported by victims of abuse in childhood and adolescence adds to the results of numerous studies examining the long-term detrimental effects of abuse during childhood. It is of particular interest that Noll et al. (2006) showed that, although victims who experienced less severe sexual abuse in childhood exhibited more sleep difficulties, the presence of sleep disturbances was associated with higher revictimization rates. Many correlates of sleep disturbances, such as cognitive impairment, dysphoric mood, and use of alcohol (e.g. Leger et al., 2010), may increase the risk of exposure to dangerous situations, contribute to revictimization, and further maintain hyperarousal.

The findings suggested that different characteristics predict sleep disturbances and PTSD symptom severity. While age at time of trauma, number of perpetrators, and frequency of abuse were associated with sleep disturbances, only victim–perpetrator relationship contributed to PTSD symptom severity (either clinician-rated or self-reported). Although these exploratory findings may be the result of a lack of statistical power due to the small sample size, they may also be an indication that severe abuse (i.e. in childhood, repeated, with multiple perpetrators) specifically affects sleep, rather than overall PTSD symptoms. Other corresponding findings in victims of sexual abuse include their frequent report of sleep disturbances (Krakow et al., 2002), their failure to gain normal sleep functioning (despite treatment gains) after CBT aimed only at PTSD (Galovski et al., 2009), and the efficacy of nightmare treatment to decrease both their sleep disturbances and PTSD symptoms (Krakow et al., 2001).

Several limitations restrict the generalization of the present findings. First, considering the limited sample size, the results need to be replicated to reduce the possibility of overfitting. Secondly, the cross-sectional design prevents establishment of causality. Thirdly, as over 50% of the sample were students, the sample may not be representative of all sexual abuse victims. Fourthly, the characteristics of the sexual abuse were unsystematically assessed via open-ended questions included in the CAPS.

The present study highlighted that age at time of abuse and number of perpetrators affect sleep disturbances in victims of sexual abuse. Where treatment of PTSD is concerned, the present results suggest that exploration of these characteristics could help clinicians to identify victims who could benefit from adding nightmares as a specific target for treatment (Belleville et al., 2018). Further work is needed to evaluate whether characteristics of sexual abuse correlate with treatment outcome.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Ait-Aoudia, M., Levy, P. P., Bui, E., Insana, S., de Fouchier, C., Germain, A., & Jehel, L. (2013). Validation of the French version of the Pittsburgh Sleep Quality Index Addendum for Posttraumatic Stress Disorder. *European Journal of Psychotraumatology*, 4. doi:10.3402/ejpt.v4i0.19298
- APA. (2000). *Diagnostic and statistical manual of mental disorders, fourth edition, text revised*. Washington, DC: American Psychiatric Association.
- Belicki, K. (1992). The relationship of nightmare frequency to nightmare suffering with implications for treatment and research. *Dreaming*, 2(3), 143–148.
- Belleville, G., Dube-Frenette, M., & Rousseau, A. (2018). Efficacy of imagery rehearsal therapy and cognitive behavioral therapy in sexual assault victims with post-traumatic stress disorder: A randomized controlled trial. *Journal of Traumatic Stress*. doi:10.1002/jts.22306
- Blais, F. C., Gendron, L., Mimeault, V., & Morin, C. M. (1997). Évaluation de l'insomnie: validation de trois questionnaires [Evaluation of Insomnia: Validity of Three Questionnaires].
- Blais, F. C., Gendron, L., Mimeault, V., & Morin, C. M. (1997). Évaluation de l'insomnie: validation de trois questionnaires [Evaluation of Insomnia: Validity of Three Questionnaires]. *Encephale*, 23(6), 447–453.
- Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). The development of a Clinician-Administered PTSD Scale. *Journal of Traumatic Stress*, 8(1), 75–90.
- Burnam, M. A., Stein, J. A., Golding, J. M., Siegel, J. M., Sorenson, S. B., Forsythe, A. B., & Telles, C. A. (1988). Sexual assault and mental disorders in a community population. *Journal of Consulting and Clinical Psychology*, 56(6), 843–850.
- Buysse, D. J., Reynolds, C. F., 3rd, Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The pittsburgh sleep quality index: A new instrument for psychiatric practice and research. *Psychiatry Research*, 28(2), 193–213.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research & Therapy*, 38(4), 319–345.
- Falsetti, S. A., Resnick, H., Resick, P. A., & Kilpatrick, D. G. (1993). The modified PTSD symptom scale: A brief self-report measure for assessing posttraumatic stress disorder. *The Behavior Therapist*, 16, 161–162.
- Filipas, H. H., & Ullman, S. E. (2006). Child sexual abuse, coping responses, self-blame, posttraumatic stress disorder, and adult sexual revictimization. *Journal of Interpersonal Violence*, 21(5), 652–672.
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1996). *Structured clinical interview for DSM-IV axis I disorders, clinician version (SCID-CV)*. Washington, DC: American Psychiatric Press.
- Galovski, T. E., Monson, C., Bruce, S. E., & Resick, P. A. (2009). Does cognitive-behavioral therapy for PTSD improve perceived health and sleep impairment? *Journal of Traumatic Stress*, 22(3), 197–204.
- Germain, A., Hall, M., Krakow, B., Shear, M. K., & Buysse, D. J. (2005). A brief sleep scale for posttraumatic stress disorder: pittsburgh sleep quality index addendum for PTSD. *Journal of Anxiety Disorders*, 19, 233–244.
- Guay, S., Marchand, A., Iucci, S., & Martin, A. (2002). Validation de la version québécoise de l'Échelle modifiée des symptômes du trouble de stress post-traumatique auprès d'un échantillon clinique [Validation of the French-Canadian version of the modified post-traumatic symptom scale in a clinical setting]. *Revue québécoise de psychologie*, 23, 257–267.
- Heath, V., Bean, R., & Feinauer, L. (1996). Severity of childhood sexual abuse: Symptom differences between men and women. *American Journal of Family Therapy*, 24(4), 305–314.
- Koren, D., Arnon, I., Lavie, P., & Klein, E. (2002). Sleep complaints as early predictors of posttraumatic stress disorder: A 1-year prospective study of injured survivors of motor vehicle accidents. *American Journal of Psychiatry*, 159(5), 855–857.
- Krakow, B., Hollifield, M., Johnston, L., Koss, M., Schrader, R., Warner, T. D., ... Prince, H. (2001). Imagery rehearsal therapy for chronic nightmares in sexual assault survivors with posttraumatic stress disorder: A randomized controlled trial. *Journal of the American Medical Association*, 286(5), 537–545.
- Krakow, B., Schrader, R., Tandberg, D., Hollifield, M., Koss, M. P., Yau, C. L., & Cheng, D. T. (2002). Nightmare frequency in sexual assault survivors with PTSD. *Journal of Anxiety Disorders*, 16(2), 175–190.
- Leger, D., Partinen, M., Hirshkowitz, M., Chokroverty, S., Touchette, E., & Hedner, J. (2010). Daytime consequences of insomnia symptoms among outpatients in primary care practice: EQUINOX international survey. *Sleep Medicine*, 11(10), 999–1009.
- Noll, J. G., Trickett, P. K., Susman, E. J., & Putnam, F. W. (2006). Sleep disturbances and childhood sexual abuse. *Journal of Pediatric Psychology*, 31(5), 469–480.
- Spoormaker, V. I., & Montgomery, P. (2008). Disturbed sleep in post-traumatic stress disorder: Secondary symptom or core feature? *Sleep Medicine Reviews*, 12(3), 169–184.
- Steine, I. M., Krystal, J. H., Nordhus, I. H., Bjorvatn, B., Harvey, A. G., Eid, J., ... Pallesen, S. (2012). Insomnia, nightmare frequency, and nightmare distress in victims of sexual abuse: The role of perceived social support and abuse characteristics. *Journal of Interpersonal Violence*, 27(9), 1827–1843.
- Ullman, S. E., & Brecklin, L. R. (2002). Sexual assault history, PTSD, and mental health service seeking in a national sample of women. *Journal of Community Psychology*, 30(3), 261–279.
- Zayfert, C., & DeViva, J. C. (2004). Residual insomnia following cognitive behavioral therapy for PTSD. *Journal of Traumatic Stress*, 17(1), 69–73.