

Sexual Functioning in War Veterans with Posttraumatic Stress Disorder

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> **Received:** June 15, 2008
> **Accepted:** July 16, 2008

> **Croat Med J. 2008;49:499-505**
> doi: 10.3325/cmj.2008.4.499

Aim To assess the sexual dysfunction among Croatian war veterans with combat-related posttraumatic stress disorder (PTSD).

Method The study included two groups – 101 war veterans with PTSD and 55 healthy control volunteers receiving outpatient general health care in several outpatient clinics in Split. Structured interviews on different aspects of sexual functioning were conducted from April to October 2007 by trained interviewers.

Results Respondents with PTSD reported significantly less sexual activity during the previous month than controls (sexual fantasies 2.5 ± 1.6 vs 3.7 ± 1.7 , $P < 0.001$; foreplay 2.4 ± 1.6 vs 3.5 ± 1.6 , $P < 0.001$; oral sex 1.6 ± 1.2 vs 2.6 ± 1.5 , $P < 0.001$; and sexual intercourse 2.4 ± 1.6 vs 3.8 ± 1.5 , $P < 0.001$) on a 7-point Likert type scale (from 1 – not a single time to 7 – more times a day). As reasons for reduced sexual activities, respondents with PTSD more frequently than controls reported their own health problems (3.2 ± 1.2 vs 1.5 ± 0.8 ; $P < 0.001$) or health problems of their partner (2.4 ± 1.1 vs 1.9 ± 1.1 ; $P = 0.004$), whereas controls more frequently reported overwork than respondents with PTSD (2.6 ± 1.1 vs 2.1 ± 1.0 ; $P = 0.007$) on a 5-point Likert type scale (from 1 – not a single time to 5 – always). Respondents with PTSD reported antidepressant ($n = 52$, 51%) or anxiolytics use ($n = 73$, 72.3%). In a subgroup analysis, respondents with PTSD who were taking antidepressants masturbated less frequently than those who were not taking them (1.9 ± 1.3 vs 2.5 ± 1.6 ; $P = 0.039$), whereas premature ejaculation was more often experienced by respondents with PTSD who were not taking antidepressants than by those who were taking them (3.5 ± 1.8 vs 2.7 ± 1.5 ; $P < 0.049$) both on a 7-point Likert type scale (from 1 – not a single time to 7 – more times a day).

Conclusion War veterans with PTSD had less sexual activity, hypoactive sexual desire, and erectile difficulties. Antidepressant therapy in veterans with PTSD may be associated with hypoactive sexual desire.

Posttraumatic stress disorder (PTSD) is a complex phenomenon that develops as a response to a psychological trauma and affects several levels of personality, causing changes in both mental and physical functioning (1-3). It is often associated with problems in interpersonal relationships and difficulties with attachment, intimacy, and sexuality (1,2). Problems in the realm of sexuality arise from the individual's inability to establish an adequate emotional-physical relationship with the partner, as well as from the disturbances in mental and physical health (4). Several studies found that the prevalence of sexual dysfunctions among patients with PTSD was higher than in general population (5-7). Dysfunctions can occur in almost all domains of sexuality – activity, desire, arousal, orgasm, and satisfaction with sexual life (5). The most frequent difficulties are erectile dysfunction and premature ejaculation (6,7). Antidepressant therapy is an additional factor that can aggravate difficulties in sexual functioning (8).

Sexual dysfunctions in Croatia have rarely been explored (4,9). A national study that explored the prevalence and risk factors of erectile and ejaculatory difficulties pointed out the role of anxiety and stress in the occurrence of premature ejaculation (4). The significance of sexuality for one's perception of quality of life, a high prevalence of PTSD in a post-war society such as Croatia, and a lack of relevant studies all point to the importance of studying this domain of veterans' life (10,11). Our aim was to assess the impact of PTSD on the occurrence of sexual dysfunctions.

Subjects and methods

Subjects

Two groups of men were included in the study. The first group consisted of respondents with PTSD and the second of healthy respondents. The study was conducted between April

and October 2007. The inclusion criteria for the first group were age between 20 and 60 and the diagnosis of combat-related PTSD. To identify the veterans with PTSD, a detailed screening procedure was performed, as defined in the 10th revision of the International Classification of Diseases (12), Mississippi Scale for Combat related PTSD (M-PTSD) (13), and Clinician Administered PTSD Scale (CAPS) (14,15). All included respondents with PTSD were either exposed to the threat of death or serious injury or witnessed the threat to physical integrity of others during the 1991-1995 war in Croatia. Exclusion criteria were acute psychosis, central nervous system diseases, alcohol or drug addiction, and subnormal intelligence.

A total of 126 veterans were examined. Twenty five of them did not meet the inclusion criteria – 5 were alcoholic, 2 had a psychotic disorder, and in 18 veterans the diagnosis of PTSD was not confirmed. The final sample of PTSD patients consisted of 101 persons (Table 1).

The control group consisted of 55 male subjects who were receiving outpatient general care in several outpatient clinics in Split (Table 1). Inclusion criteria were age between 20 and 60 and the absence of PTSD diagnosis or

Table 1. Sociodemographic characteristics of war veterans with posttraumatic stress disorder (PTSD) and healthy control subjects

Characteristics	PTSD (n=101)	control (n=55)	P
Age (mean± standard deviation)	41.9±6.9	39.1±7.8	0.021*
Education (n, %):			0.005†
primary or high school	92 (91.1)	40 (72.7)	
college, university or still studying	9 (8.9)	15 (27.3)	
Marital status (n, %):			0.396†
single	20 (19.8)	13 (23.6)	
married	78 (77.2)	38 (69.1)	
divorced	3 (3.0)	3 (5.5)	
widowed	0 (0.0)	1 (1.8)	
Economic status (n, %):			<0.001†
considerably or somewhat worse than most other people	34 (33.7)	5 (9.1)	
neither better nor worse than most other people	60 (59.4)	32 (58.2)	
considerably or somewhat better than most other people	7 (6.9)	18 (32.7)	

*Independent samples t test.

† χ^2 test.

active participation in the 1991-1995 war in Croatia. Exclusion criteria were acute psychosis, central nervous system disease, alcohol or drug addiction, and subnormal intelligence. Two subjects were alcoholics and they were excluded from the study.

All subjects gave their oral informed consent to participate in the study.

Instrument

Each study participant was interviewed individually by use of a structured questionnaire (web-extra) that has been validated on the Croatian population sample (16). The questionnaire consisted of 30 items assessing the frequency of sexual activities, different aspects of sexual functioning, quality of sexual life, and sexual satisfaction. The last part of the questionnaire included health information, life style, and sociodemographic data.

Only the answers to the questions that were directly related to the aim of this study were taken into consideration. The analyzed data were as follows: sociodemographic data, data on frequency and type of sexual activity, reasons for reduced sexual activities, data on sexual desire, erectile and orgasmic functioning, premature ejaculation, and feelings of pain during sexual intercourse (eg, headache, backache, pain in the genital region), data on life style, and use of drugs. Answers to a total of 17 questions were analyzed.

Questionnaire consisted of 4-point to 7-point Likert-type questions. Questions on life style and drugs use of were of yes/no type.

Statistical analysis

Variables were evaluated descriptively (mean \pm standard deviation (SD) of frequencies). Differences between the groups were tested by *t* test for independent samples. χ^2 test was used for the analysis of differences between the groups in sociodemographic characteristics, life style, and use of drugs. Subgroup

analysis was also performed for the group of respondents with PTSD according to antidepressant therapy – PTSD subjects without antidepressants ($n = 49$) and PTSD subjects with antidepressants ($n = 52$) (Table 2 and 3).

Table 2. Sociodemographic characteristics of war veterans with posttraumatic stress disorder (PTSD) who were not taking antidepressant therapy and those who were

	PTSD patients		<i>P</i>
	without antidepressants (n=49)	with antidepressants (n=52)	
Age (mean \pm standard deviation)	40.9 \pm 7.0	42.9 \pm 6.9	0.165*
Education (n, %):			0.926†
primary or high school	44 (89.8)	48 (92.3)	
college, university or still studying	5 (10.2)	4 (7.7)	
Marital status (n, %):			0.238†
single	13 (26.5)	7 (13.5)	
married	35 (71.4)	43 (82.7)	
divorced	1 (2.0)	2 (3.8)	
widower	0 (0.0)	0 (0.0)	
Economic status (n, %):			<0.001†
considerably or somewhat worse than most other people	15 (30.6)	19 (36.5)	
neither better nor worse than most other people	30 (61.2)	30 (57.7)	
considerably or somewhat better than most other people	4 (8.2)	3 (5.8)	

*Independent samples *t* test.
† χ^2 test.

The level of significance was set at $P < 0.05$. Statistical analyses were performed with the Statistical Package for the Social Sciences, version 15.0 (SPSS Inc., Chicago, IL, USA).

Results

Respondents with PTSD were significantly older than controls ($P = 0.021$), but this was not a clinically significant difference for sexual function. They also had a lower level of education ($P = 0.005$) and a lower economic status ($P < 0.001$) (Table 1).

A significant difference was found in the frequency of sexual activities between respondents with PTSD and controls (Table 4). Respondents with PTSD reported a lower frequency of sexual fantasies, foreplay, oral sex, and sexual intercourse than controls.

Respondents with PTSD reported lower sexual desire than controls in all investi-

Table 3. Sexual functioning of war veterans with posttraumatic stress disorder (PTSD) who did not receive antidepressant therapy and those who received it

	PTSD patients (mean±SD)		P*
	without antidepressants (n=49)	with antidepressants (n=52)	
Frequency of sexual activity [†]	2.0±0.8	2.0±1.1	0.920
Type of activity: [‡]			
sexual fantasies	2.5±1.5	2.6±1.8	0.816
masturbation	2.5±1.6	1.9±1.3	0.039
foreplay	2.6±1.8	2.2±1.5	0.157
oral sex	1.9±1.4	1.4±1.1	0.055
sexual intercourse	2.7±1.5	2.2±1.6	0.095
Desire for: [‡]			
kissing	3.9±2.1	2.7±1.9	0.004
masturbation	2.7±1.7	1.7±1.2	0.001
petting	3.5±2.0	2.6±1.7	0.011
oral sex	2.8±2.0	2.2±1.7	0.088
sexual intercourse	3.7±1.8	2.8±1.6	0.010
Sexual functions:			
erection sufficient for intercourse [§]	4.2±1.1	3.9±1.1	0.220
difficulties in reaching orgasm [‡]	3.0±1.5	3.1±1.8	0.716
premature ejaculation [‡]	3.5±1.8	2.7±1.5	0.049
painful intercourse [§]	3.1±1.3	2.9±1.5	0.570
Reasons for reduced sexual activity:			
own health	2.8±1.1	3.6±1.2	0.002
health of partner	2.4±0.9	2.4±1.1	0.889
lack of privacy	2.1±1.1	2.1±1.1	0.897
quarreling in the relationship	2.4±1.1	2.1±1.1	0.155
overwork	2.2±1.0	2.0±1.0	0.324

*Independent samples *t* test.[†]Estimated on a 4 point scale: 1 – I was not sexually active, 2 – less often than I would like, 3 – just the right frequency, 4 – more often than I would like.[‡]Estimated on a 7 point scale: 1 – not a single time, 2 – once a month, 3 – two-three times a month, 4 – once a week, 5 – two- three times a week, 6 – once a day, 7 – more times a day.[§]Estimated on a 6 point scale: 1 – I was not sexually active, 2 – never or almost never, 3 – rarely, 4 – sometimes, 5 – often, 6 – always or almost always.^{||} Estimated on a 5 point scale: 1 – not a single time, 2 – rarely, 3 – sometimes, 4 – often, 5 – always.

gated variables (Table 4). In comparison with controls, respondents with PTSD less often achieved erection sufficient for sexual intercourse and more often felt pain during the intercourse (Table 4). Respondents with PTSD more often reported that the main reasons that reduced the frequency of their sexual activities were their or their partner's health, whereas the main reason in controls was overwork (Table 4).

Controls reported daily consumption of alcohol in the previous month more often than respondents with PTSD (Table 5). There were no significant differences between the groups in smoking tobacco, doing physical exercise, taking antihypertensive drugs, and having diabetes mellitus and increased blood lip-

Table 4. Sexual functioning of war veterans with posttraumatic stress disorder (PTSD) and healthy control subjects

	Mean ± standard deviation		P
	PTSD (n=101)	control (n=55)	
Frequency of sexual activity [†]	2.0±1.0	2.4±0.6	0.003
Type of activity: [‡]			
sexual fantasies	2.5±1.6	3.7±1.7	<0.001
masturbation	2.2±1.5	2.6±1.5	0.170
foreplay	2.4±1.6	3.5±1.6	<0.001
oral sex	1.6±1.2	2.6±1.5	<0.001
sexual intercourse	2.4±1.6	3.8±1.5	<0.001
Desire for: [‡]			
kissing	3.3±2.0	4.5±2.1	<0.001
masturbation	2.2±1.5	2.9±1.6	0.008
petting	3.0±1.9	4.2±1.8	<0.001
oral sex	2.5±1.8	3.7±1.7	<0.001
sexual intercourse	3.2±1.7	4.5±1.4	<0.001
Sexual functions:			
erection sufficient for intercourse [§]	4.1±1.1	5.3±0.9	<0.001
difficulties in reaching orgasm [‡]	3.0±1.6	2.6±0.9	0.128
premature ejaculation [‡]	3.1±1.7	3.2±1.0	0.674
painful intercourse [§]	3.0±1.4	2.6±0.8	0.037
Reasons for reduced sexual activity:			
own health	3.2±1.2	1.5±0.8	<0.001
health of partner	2.4±1.0	1.9±1.1	0.004
lack of privacy	2.1±1.1	2.1±1.2	0.920
quarreling in the relationship	2.3±1.1	2.1±1.2	0.462
overwork	2.1±1.0	2.6±1.1	0.007

*Independent samples *t* test.[†]Estimated on a 4 point scale: 1 – I was not sexually active, 2 – less often than I would like, 3 – just the right frequency, 4 – more often than I would like.[‡]Estimated on a 7 point scale: 1 – not a single time, 2 – once a month, 3 – two-three times a month, 4 – once a week, 5 – two- three times a week, 6 – once a day, 7 – more times a day.[§]Estimated on a 6 point scale: 1 – I was not sexually active, 2 – never or almost never, 3 – rarely, 4 – sometimes, 5 – often, 6 – always or almost always.^{||} Estimated on a 5 point scale: 1 – not a single time, 2 – rarely, 3 – sometimes, 4 – often, 5 – always.

ids (Table 5). Respondents with PTSD who were taking antidepressants used antihypertensives significantly more often than those who were not taking antidepressants (Table 5). Compared with controls, respondents with PTSD more often used anxiolytic drugs. Respondents with PTSD who were taking antidepressants used anxiolytics more often than respondents with PTSD who were not taking antidepressants (Table 5).

Respondents with PTSD who used antidepressants masturbated less often than respondents with PTSD who did not use antidepressants (Table 3). Also, respondents with PTSD who were taking antidepressants less often felt a desire for kissing, masturbation, petting, and sexual intercourse, less frequently experienced premature ejaculation, and more often indicated that their health

Table 5. Life style and use of drugs in war veterans with post-traumatic stress disorder (PTSD) and control healthy subjects

Parameters	No. (%) of		P*
	PTSD (n = 101)	control (n = 55)	
Alcohol:			0.002
no	87 (86.1)	35 (63.6)	
yes	14 (13.9)	20 (36.4)	
Smoking:			0.442
no	52 (51.5)	24 (43.6)	
yes	49 (48.5)	31 (56.4)	
Exercise:			0.076
no	79 (78.2)	35 (63.6)	
yes	22 (21.8)	20 (36.4)	
High blood pressure:			0.960
no	92 (91.1)	51 (92.7)	
yes	9 (8.9)	4 (7.3)	
Diabetes:			0.760
no	99 (98.0)	55 (100.0)	
yes	2 (2.0)	0 (0.0)	
Blood lipids:			0.760
no	99 (98.0)	55 (100.0)	
yes	2 (2.0)	0 (0.0)	
Anxiolytics:			<0.001
no	28 (27.7)	55 (100.0)	
yes	73 (72.3)	0 (0.0)	
Antidepressants:			<0.001
no	49 (48.5)	55 (100.0)	
yes	52 (51.5)	0 (0.0)	

* χ^2 test.

problems reduced the frequency of their sexual activities (Table 3).

Discussion

Our study found lower sexual desire, lower frequency of sexual activities, and a more frequent erectile dysfunction and painful intercourse in respondents with PTSD than in controls. Reduced sexual desire was more prominent in veterans with PTSD who were taking antidepressant therapy (except on the variable of masturbation) than in those who were not taking it, whereas premature ejaculation was more frequent in veterans who were not taking antidepressants than in those who were.

Our findings can be compared with the findings of studies conducted in the USA (5-7), Korea (17), and Israel (18), since in Croatian war veterans there were no previous studies about sexual dysfunctions. Although all studies found higher rates of sexual dysfunction in respondents with PTSD (ranging from

37-80%), types of the dysfunctions were different (5-7). The most commonly described dysfunctions were erectile dysfunction, premature ejaculation, and reduced interest in sexual activities, which is in accordance with our findings, but also a dissatisfaction with sexual relationships (6,7). Differences in frequencies and types of sexual dysfunctions across studies can be related to the intensity of PTSD, comorbidity, cultural differences, and differences in study instruments.

Sexual dysfunctions are often associated with the use of antidepressants, which are among the most commonly prescribed drugs for PTSD (17,19). Sexually-related side effects are found in 30-50% of patients treated with selective serotonin reuptake inhibitors. Most frequent are postponed ejaculation, erectile dysfunction, and reduced libido (8). In our study, only reduced libido was associated with antidepressant therapy. Higher rate of premature ejaculation in PTSD subjects without antidepressant therapy is not surprising, since this ejaculatory difficulty is known to be prevalent in PTSD. Its absence in subjects who received antidepressants can be explained by the fact that a side effect of antidepressant therapy is postponed ejaculation. Reduced sexual desire in the group who received antidepressants can hypothetically be associated with their average age, which is higher than in the control group, but it is not likely that the age difference of three years could significantly affect the sexual functioning.

Since erectile dysfunction and reduced sexual activity was found in respondents with PTSD regardless of their taking antidepressants, the cause of these dysfunctions should be sought in psychological factors related to PTSD. Reduced emotional response and increased arousal, which are part of the clinical picture of PTSD, can be associated with sexual dysfunction. Some authors describe that intrusive phenomena occur in states of increased

arousal during orgasm (7). Fear, anxiety, and anger, often present in PTSD patients, can also cause sexual dysfunctions (20). Difficulties in establishing close and intimate relationships, low feeling of satisfaction in heterosexual relationships, and family problems are often cited as psychological factors that play a role in the development of sexual dysfunctions in veterans with PTSD (21).

The only study that compared war veterans with PTSD who were taking antidepressants, those who were not taking antidepressants, and a control group, found not only a lower sexual activity, reduced sexual desire, and erectile dysfunction, but also more frequent orgasm disturbances and lower satisfaction in respondents with PTSD than in the control group (5). The study (5), with a similar design as ours, showed significantly lower sexual desire in veterans with PTSD who were taking antidepressants than in those without such therapy. The same study, however, showed that antidepressants use was associated with reduced frequency of sexual activity and erectile dysfunction (5), which is at variance with the results of our study, except for the score on masturbation. The sample in our study may be more representative because it included almost three times more PTSD subjects than the US study (5).

The fact that respondents with PTSD most often identified their health as the cause of sexual dysfunctions indicates that they are aware of the effect of PTSD on sexual activity. The role of the mental disorder in the occurrence of sexual dysfunctions is further confirmed, since there was no differences between respondents with PTSD and controls in factors such as smoking, physical exercise, and the use of diabetes mellitus and high blood lipids drugs. The finding that war veterans used anxiolytic drugs more often than healthy subjects was also shown by Friedman et al (19). Some anxiolytics can cause sexual difficulties such as

erectile dysfunctions and reduced sexual desire (8). This can, at least partially, explain reduced sexual desire in veterans who were taking antidepressants, 84.6% out of whom were also taking anxiolytics. Although almost 60% of veterans who were not taking antidepressants reported the use anxiolytics, the frequency of reduced sexual desire and postponed ejaculation was still higher in veterans on antidepressant therapy, indicating that these disturbances are related to antidepressant and not anxiolytics use.

In our study, controls more often consumed alcohol than respondents with PTSD, which can be explained by the fact that alcohol consumption is contraindicated with the use of anxiolytics and antidepressants. We cannot make conclusions about the effect of alcohol intake, as alcohol addiction was the exclusion criterion for our study.

Slightly more frequent use of antihypertensive drugs among respondents with PTSD on antidepressant therapy can hardly be taken as a valid explanation of sexual dysfunctions, despite the data from the literature which indicate the role of antihypertensive therapy in the development of sexual dysfunctions (22).

The limitation of this study is a relatively small number of participants and differences in age, education, and economic status between the respondents with PTSD and control group. Also we had more control respondents with higher educational and economic status, since people with lower educational (primary or high-school) and economic status more often refused to participate in the study, possibly because in Croatia sexuality is still a taboo (4). This was not the case with war veterans of lower educational status, who were more willing to participate because they had established a trusting relationship with the researchers during therapy process. Respondents with PTSD were almost three years older than control subjects, but this difference in age

is too small to produce differences in sexual functioning. We can assume that our control group was representative enough, since the prevalence of erectile and ejaculatory difficulties was similar to that found in general population (4). War veterans without PTSD diagnosis, rather than healthy controls, could have been used as a control group but recent studies showed that veterans without PTSD diagnosis also have some of the PTSD and depressive symptoms that could cause sexual dysfunction (1,19). The small size of the study group did not allow a subgroup analysis of the influence of other variables, such as more frequent partner change among respondents with PTSD or comorbidities (alcoholism and depression) on the development of sexual dysfunctions.

Further studies should include more participants and should control for the effect of comorbid diagnoses, different physical disorders, but also for anxiolytics and other medications use, on the occurrence of sexual dysfunctions. Furthermore, predominant psychological causes of sexual dysfunctions in PTSD should be explored.

References

- 1 Van der Kolk BA, McFarlane AC, Weisaeth L. Traumatic stress: the effects of overwhelming experience on mind, body, and society. New York (NY): Guilford Press; 1996.
- 2 Wilson JP, Friedman MJ, Lindy JD, editors. Treating psychological trauma and PTSD. New York (NY): Guilford Press; 2004.
- 3 Britvić D, Antičević V, Kekez V, Lapenda B, Urlic I. Psychodynamic aspects of adaptation and treating psychotrauma: results of a study [in Croatian]. *Drustvena Istrazivanja*. 2007;89:497-513.
- 4 Stulhofer A, Bajic Z. Prevalence of erectile and ejaculatory difficulties among men in Croatia. *Croat Med J*. 2006;47:114-24. [Medline:16489704](#)
- 5 Kotler M, Cohen H, Aizenberg D, Matar M, Loewenthal U, Kaplan Z, et al. Sexual dysfunction in male posttraumatic stress disorder patients. *Psychother Psychosom*. 2000;69:309-15. [Medline:11070443](#) [doi:10.1159/000012413](#)
- 6 Cosgrove DJ, Gordon Z, Bernie JE, Hami S, Montoya D, Stein MB, et al. Sexual dysfunction in combat veterans with post-traumatic stress disorder. *Urology*. 2002;60:881-4. [Medline:12429320](#) [doi:10.1016/S0090-4295\(02\)01899-X](#)
- 7 Letourneau EJ, Schewe PA, Fruch BC. Preliminary evaluation of sexual problems in combat veterans with PTSD. *J Trauma Stress*. 1997;10:125-32. [Medline:9018683](#)
- 8 Clayton DO, Shen WW. Psychotropic drug-induced sexual function disorders: diagnosis, incidence and management. *Drug Saf*. 1998;19:299-312. [Medline:9804444](#) [doi:10.2165/00002018-199819040-00005](#)
- 9 Stulhofer A, Gregurovic M, Pikic A, Galic I. Sexual problems of urban women in Croatia: prevalence and correlates in a community sample. *Croat Med J*. 2005;46:45-51. [Medline:15726675](#)
- 10 Britvic D, Radelic N, Urlic I. Long-term dynamic-oriented group psychotherapy of posttraumatic stress disorder in war veterans: prospective study of five-year treatment. *Croat Med J*. 2006;47:76-84. [Medline:16489700](#)
- 11 Dijanic Plase I, Peraica T, Grubisic-Ilic M, Rak D, Jambrosic Sakoman A, Kozaric Kovacic D. Psychiatric heredity and posttraumatic stress disorder: survey study of war veterans. *Croat Med J*. 2007;48:146-56. [Medline:17436379](#)
- 12 World Health Organisation. The ICD-10 classification of mental and behavioral disorders: clinical descriptions and diagnostic guidelines. Geneva: WHO; 1992.
- 13 Keane TM, Caddell JM, Taylor KL. Mississippi Scale for Combat-Related Posttraumatic Stress Disorder: three studies in reliability and validity. *J Consult Clin Psychol*. 1988;56:85-90. [Medline:3346454](#) [doi:10.1037/0022-006X.56.1.85](#)
- 14 American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Washington (DC): American Psychiatric Association; 1994.
- 15 Blake DD, Weathers FW, Nagy LN, Kaloupek DG, Klauminzer G, Charney DS, et al. A clinician rating scale for assessing current and lifetime PTSD: the CAPS-1. *Behav Ther*. 1990;18:187-8.
- 16 Štulhofer A, Tiljak H, Gregurović M, Kuti S, Zelenbrz J, Landripet I. Prevalence of sexual dysfunctions in a sample of men from Zagreb [in Croatian]. *Medicina*. 2005;42:294-9.
- 17 Chung MY, Min KH, Jun YJ, Kim SS, Kim WC, Jun EM. Efficacy and tolerability of mirtazapine and sertraline in Korean veterans with posttraumatic stress disorder: a randomized open label trial. *Hum Psychopharmacol*. 2004;19:489-94. [Medline:15378676](#) [doi:10.1002/hup.615](#)
- 18 Chudakov B, Cohen H, Matar MA, Kaplan Z. A naturalistic prospective open study of the effects of adjunctive therapy of sexual dysfunction in chronic PTSD patients. *Isr J Psychiatry Relat Sci*. 2008;45:26-32. [Medline:18587167](#)
- 19 Friedman MJ, Keane TM, Resick PA, editors. Handbook of PTSD: science and practice. New York (NY): Guilford Press; 2007.
- 20 Kaplan PM. Post-traumatic stress syndrome and sexual dysfunction. *J Sex Marital Ther*. 1989;15:74-7. [Medline:2738932](#)
- 21 Gruden V, Gruden V Jr. Libido and PTSD. *Coll Antropol*. 2000;24:253-6. [Medline:10895553](#)
- 22 Kaplan HI, Sadock BJ, Grebb JA, editors. Comprehensive textbook of psychiatry. 6th ed. Baltimore (MD): Williams Wilkins; 1995.