DEPARTMENT OF THE AIR FORCE
59TH MEDICAL WING (AETC)
JOINT BASE SAN ANTONIO - LACKLAND TEXAS

26 JULY 2017

MEMORANDUM FOR SGMSS
ATTN: MAJ MATTHEW S BROCK

FROM: 59 MDW/SGVU

SUBJECT: Professional Presentation Approval

Your paper, entitled **An Initial Report on Nightmares in Active Duty Service Members with Sleep Disturbances** presented at/published to **Military Health System Research Symposium (MHSRS) 8/29/2017** in accordance with MDWI 41-108, has been approved and assigned local file #**17289.**

Pertinent biographic information (name of author(s) title, etc.) has been entered into our computer file. Please advise us (by phone or mail) that your presentation was given. At that time, we will need the date (month, day and year) along with the location of your presentation. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center (WHASC) internship and residency programs.

Please know that if you are a Graduate Health Sciences Education student and your department has told you they cannot fund your publication, the 59th Clinical Research Division may pay for your basic journal publishing charges (to include costs for tables and black and white photos). We cannot pay for reprints. If you are a 59 MDW staff member, we can forward your request for funds to the designated Wing POC at the Chief Scientist's Office, Ms. Alice Houy, office phone: 210-292-8029; email address: alice.houy.civ@mail.mil.

Congratulations, and thank you for your efforts and time. Your contributions are vital to the medical mission. We look forward to assisting you in your future publication/presentation efforts.

Linda Steel-Goodwin

LINDA STEEL-GOODWIN, Col, USAF, BSC
Director, Clinical Investigations & Research Support

Warrior Medics – Mission Ready – Patient Focused

PROCESSING OF PROFESSIONAL MEDICAL RESEARCH/TECHNICAL PUBLICATIONS/PRESENTATIONS

INSTRUCTIONS

USE ONLY THE MOST CURRENT 59 MDW FORM 3039 LOCATED ON AF E-PUBLISHING

1. The author must complete page two of this form:
   a. In Section 2, add the funding source for your study [e.g., 59 MDW CRD Graduate Health Sciences Education (GHSE) (SG5 O&M); SG5 R&D; Tri-Service Nursing Research Program (TSNRP); Defense Medical Research & Development Program (DMRDP); NIH; Congressionally Directed Medical Research Program (CDMRP) ; Grants; etc.]

   b. In Section 2, there may be funding available for journal costs, if your department is not paying for figures, tables or photographs for your publication. Please state "YES" or "NO" in Section 2 of the form, if you need publication funding support.

2. Print your name, rank/grade, sign and date the form in the author's signature block or use an electronic signature.

3. Attach a copy of the 59 MDW IRB or IACUC approval letter for the research related study. If this is a technical publication/presentation, state the type (e.g. case report, QA/QI study, program evaluation study, informational report/briefing, etc.) in the "Protocol Title" box.

4. Attach a copy of your abstract, paper, poster and other supporting documentation.

5. Save and forward, via email, the processing form and all supporting documentation to your unit commander, program director or immediate supervisor for review/approval.

6. On page 2, have either your unit commander, program director or immediate supervisor:
   a. Print their name, rank/grade, title; sign and date the form in the approving authority's signature block or use an electronic signature.

7. Submit your completed form and all supporting documentation to the CRD for processing to: usaf.jbsa.59-mdw.mbx.wing-crd-publications-and-presentations@mail.mil. **This should be accomplished no later than 30 days before final clearance is required to publish/present your materials.** If you have any questions or concerns, please contact the 59 CRD/Publications and Presentations Section at 292-7141 for assistance.

8. The 59 CRD/Publications and Presentations Section will route the request form to clinical investigations, 502 ISG/JAC (Ethics Review) and Public Affairs (59 MDW/PA) for review and then forward you a final letter of approval or disapproval.

9. Once your manuscript, poster or presentation has been approved for a one-time public release, you may proceed with your publication or presentation submission activities, as stated on this form. **Note:** For each new release of medical research or technical information as a publication/presentation, a new 59 MDW Form 3039 must be submitted for review and approval.

10. If your manuscript is accepted for scientific publication, please contact the 59 CRD/Publications and Presentations Section at 292-7141. This information is reported to the 59 MDW/CC. All medical research or technical information publications/presentations must be reported to the Defense Technical Information Center (DITC). See 59 MDWI 41-108, *Presentation and Publication of Medical and Technical Papers,* for additional information.

11. The Joint Ethics Regulation (JER) DoD 5500.07-R, *Standards of Conduct*, provides standards of ethical conduct for all DoD personnel and their interactions with other non-DoD entities, organizations, societies, conferences, etc. Part of the Form 3039 review and approval process includes a legal ethics review to address any potential conflicts related to DoD personnel participating in non-DoD sponsored conferences, professional meetings, publication/presentation disclosures to domestic and foreign audiences, DoD personnel accepting non-DoD contributions, awards, honoraria, gifts, etc. The specific circumstances for your presentation will determine whether a legal review is necessary. **If you (as the author) or your supervisor check "NO" in block 17 of the Form 3039, your research or technical documents will not be forwarded to the 502 ISG/JAC legal office for an ethics review.** To assist you in making this decision about whether to request a legal review, the following examples are provided as a guideline:

    For presentations before professional societies and like organizations, the 59 MDW Public Affairs Office (PAO) will provide the needed review to ensure proper disclaimers are included and the subject matter of the presentation does not create any cause for DoD concern.

    If the sponsor of a conference or meeting is a DoD entity, an ethics review of your presentation is not required, since the DoD entity is responsible to obtain all approvals for the event.

    If the sponsor of a conference or meeting is a non-DoD commercial entity or an entity seeking to do business with the government, then your presentation should have an ethics review.

    If your travel is being paid for (in whole or in part) by a non-Federal entity (someone other than the government), a legal ethics review is needed. These requests for legal review should come through the 59 MDW Gifts and Grants Office to 502 ISG/JAC.

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    If you (as the author) or your supervisor check "YES" in block 17 of the Form 3039, your research or technical documents will be forwarded simultaneously to the 502 ISG/JAC legal office and PAO for review to help reduce turn-around time. If you have any questions regarding legal reviews, please contact the legal office at (210) 671-5795/3365, DSN 473.

NOTE: All abstracts, papers, posters, etc., should contain the following disclaimer statement:
"The views expressed are those of the [author(s)] [presenter(s)] and do not reflect the official views or policy of the Department of Defense or its Components"

NOTE: All abstracts, papers, posters, etc., should contain the following disclaimer statement for research involving humans:
"The voluntary, fully informed consent of the subjects used in this research was obtained as required by 32 CFR 219 and DODI 3216.02_AFI 40-402."

NOTE: All abstracts, papers, posters, etc., should contain the following disclaimer statement for research involving animals, as required by AFMAN 40-401_IP :
"The experiments reported herein were conducted according to the principles set forth in the National Institute of Health Publication No. 80-23, Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act of 1966, as amended."

PROCESSING OF PROFESSIONAL MEDICAL RESEARCH/TECHNICAL PUBLICATIONS/PRESENTATIONS

1. TO: CLINICAL RESEARCH	2. FROM: (Author's Name, Rank, Grade, Office Symbol)	3. GME/GHSE STUDENT:	4. PROTOCOL NUMBER:
	Matthew S. Brock, Major, 0-4, SGMSS	☐ YES ☒ NO	FWH#:20170005E

5. PROTOCOL TITLE: (**NOTE:** For each new release of medical research or technical information as a publication/presentation, a new 59 MDW Form 3039 must be submitted for review and approval.)

An Initial Report on Nightmares in Active Duty Service Members with Sleep Disturbances

6. TITLE OF MATERIAL TO BE PUBLISHED OR PRESENTED:

An Initial Report on Nightmares in Active Duty Service Members with Sleep Disturbances

7. FUNDING RECEIVED FOR THIS STUDY? ☐ YES ☒ NO FUNDING SOURCE:

8. DO YOU NEED FUNDING SUPPORT FOR PUBLICATION PURPOSES: ☐ YES ☒ NO

9. IS THIS MATERIAL CLASSIFIED? ☐ YES ☒ NO

10. IS THIS MATERIAL SUBJECT TO ANY LEGAL RESTRICTIONS FOR PUBLICATION OR PRESENTATION THROUGH A COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENT (CRADA), MATERIAL TRANSFER AGREEMENT (MTA), INTELLECTUAL PROPERTY RIGHTS AGREEMENT ETC.?
☐ YES ☒ NO **NOTE:** If the answer is YES then attach a copy of the Agreement to the Publications/Presentations Request Form.

11. MATERIAL IS FOR: ☒ DOMESTIC RELEASE ☐ FOREIGN RELEASE
CHECK APPROPRIATE BOX OR BOXES FOR APPROVAL WITH THIS REQUEST. ATTACH COPY OF MATERIAL TO BE PUBLISHED/PRESENTED.

☐ 11a. PUBLICATION/JOURNAL (List intended publication/journal.)

☐ 11b. PUBLISHED ABSTRACT (List intended journal.)

☐ 11c. POSTER (To be demonstrated at meeting: name of meeting, city, state, and date of meeting.)

☒ 11d. PLATFORM PRESENTATION (At civilian institutions: name of meeting, state, and date of meting.)
Military Health System Research Symposium (MHSRS), 8/29/2017

☐ 11e. OTHER (Describe: name of meeting, city, state, and date of meeting.)

12. HAVE YOUR ATTACHED RESEARCH/TECHNICAL MATERIALS BEEN PREVIOUSLY APPROVED TO BE PUBLISHED/PRESENTED?
☒ YES ☐ NO ASSIGNED FILE # BAMC PAO DATE 4/14/2017 and 5/12/2017

13. EXPECTED DATE WHEN YOU WILL NEED THE CRD TO SUBMIT YOUR CLEARED PRESENTATION/PUBLICATION TO DTIC
NOTE: All publications/presentations are required to be placed in the Defense Technical Information Center (DTIC).

DATE
August 04, 2017

14. 59 MDW PRIMARY POINT OF CONTACT (Last Name, First Name, M.I., email)	15. DUTY PHONE/PAGER NUMBER
Brock, Matthew, S, matthew.s.brock.mil@mail.mil	210-292-1305

16. AUTHORSHIP AND CO-AUTHOR(S) List in the order they will appear in the manuscript.

LAST NAME, FIRST NAME AND M.I.	GRADE/RANK	SQUADRON/GROUP/OFFICE SYMBOL	INSTITUTION (If not 59 MDW)
a. Primary/Corresponding Author Jennifer Creamer	MAJ	59 MDW/SGVT	
b.			
c.			
d.			
e.			

17. IS A 502 ISG/JAC ETHICS REVIEW REQUIRED (JER DOD 5500.07-R)? ☐ YES ☒ NO

I CERTIFY ANY HUMAN OR ANIMAL RESEARCH RELATED STUDIES WERE APPROVED AND PERFORMED IN STRICT ACCORDANCE WITH 32 CFR 219, AFMAN 40-401_IP, AND 59 MDWI 41-108. I HAVE READ THE FINAL VERSION OF THE ATTACHED MATERIAL AND CERTIFY THAT IT IS AN ACCURATE MANUSCRIPT FOR PUBLICATION AND/OR PRESENTATION.

18. AUTHOR'S PRINTED NAME, RANK, GRADE	19. AUTHOR'S SIGNATURE	20. DATE
Matthew S. Brock, Major, O-4	BROCK.MATTHEW.S.1286408857	21 July 2017
21. APPROVING AUTHORITY'S PRINTED NAME, RANK, TITLE	**22. APPROVING AUTHORITY'S SIGNATURE**	**23. DATE**
Laura M. Baugh, Lt Col, O-5	BAUGH.LAURA.M.1081611196	22 July 2017

PROCESSING OF PROFESSIONAL MEDICAL RESEARCH/TECHNICAL PUBLICATIONS/PRESENTATIONS

1st ENDORSEMENT (59 MDW/SGVU Use Only)

TO: Clinical Research Division 59 MDW/CRD Contact 292-7141 for email instructions.	24. DATE RECEIVED July 24, 2017	25. ASSIGNED PROCESSING REQUEST FILE NUMBER 17289

26. DATE REVIEWED 24 Jul 2017	27. DATE FORWARDED TO 502 ISG/JAC

28. AUTHOR CONTACTED FOR RECOMMENDED OR NECESSARY CHANGES: ☒ NO ☐ YES If yes, give date. ________ ☐ N/A

29. COMMENTS ☒ APPROVED ☐ DISAPPROVED

The presentation and abstract are approved.

30. PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER	31. REVIEWER SIGNATURE	32. DATE
Rocky Calcote, PhD, Clinical Research Administrator	CALCOTE.ROCKY.D.1178245844	

2nd ENDORSEMENT (502 ISG/JAC Use Only)

33. DATE RECEIVED	34. DATE FORWARDED TO 59 MDW/PA

35. COMMENTS ☐ APPROVED (In compliance with security and policy review directives.) ☐ DISAPPROVED

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39. DATE RECEIVED July 24, 2017	40. DATE FORWARDED TO 59 MDW/SGVU July 25, 2017

41. COMMENTS ☒ APPROVED (In compliance with security and policy review directives.) ☐ DISAPPROVED

42. PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER	43. REVIEWER SIGNATURE	44. DATE
Kevin Iinuma, SSgt/E-5, 59 MDW Public Affairs	IINUMA.KEVIN.MITSUGU.1296227613	July 25, 2017

4th ENDORSEMENT (59 MDW/SGVU Use Only)

45. DATE RECEIVED	46. SENIOR AUTHOR NOTIFIED BY PHONE OF APPROVAL OR DISAPPROVAL ☐ YES ☐ NO ☐ COULD NOT BE REACHED ☐ LEFT MESSAGE

47. COMMENTS ☐ APPROVED ☐ DISAPPROVED

48. PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER	49. REVIEWER SIGNATURE	50. DATE

Clinical and PSG Correlates of Nightmares in US Military Personnel

Major Matthew S. Brock, MD
Chief, SAMHS Sleep Disorders Center

Disclaimer

- The views expressed are those of the presenter and do not reflect the official views or policy of the Department of Defense or its Components

Nightmare Disorder (NDO)

- Repeated occurrences of disturbing, well-remembered dreams that cause clinically significant distress or impairment
- Trauma related nightmares (TRN) follow a traumatic experience
- Clinically significant nightmares occur at least weekly
- Few studies evaluate NDO in military personnel
- Prior polysomnogram (PSG) findings in NDO have been inconclusive

Nightmares: Prevalence among the Finnish General Adult Population and War Veterans during 1972-2007

Nils Sandman, MSc; Katja Valli, PhD; Erkki Kronholm, PhD; Hanna M. Ollila, PhD; Antti Revonsuo, PhD; Tiina Laatikainen, PhD; Tiina Paunio, MD, PhD

Frequent nightmares

- Men: 3.5%
- Women: 4.8%
  (p<0.0001)

Prevalence affected by

- Sex
- Age
- Year of survey

War experiences

- ↑ nightmares
- ↑ insomnia

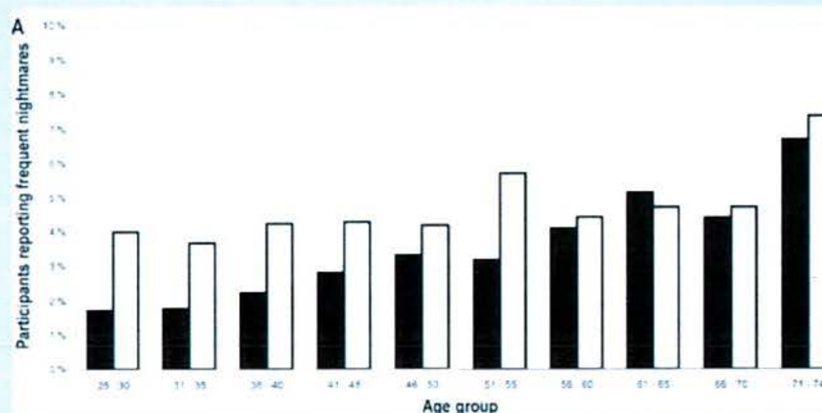


Table 5—Nightmares and symptoms of insomnia, depression, and anxiety among the war generation and the general population in the combined sample of participants of the years 1972, 1977, 1982, 1987, and 1997

	General population		War generation	
	Men	Women	Men	Women
n	17.705	17.754	5.300	5.915
Nightmares often (%)	2.8	4.6	7.2	7.0
Insomnia often (%)	5.4	6.1	10.9	13.9
Depressed often (%)	3.7	6.5	7.1	9.6
Anxious often (%)	7.3	9.8	11.0	12.0

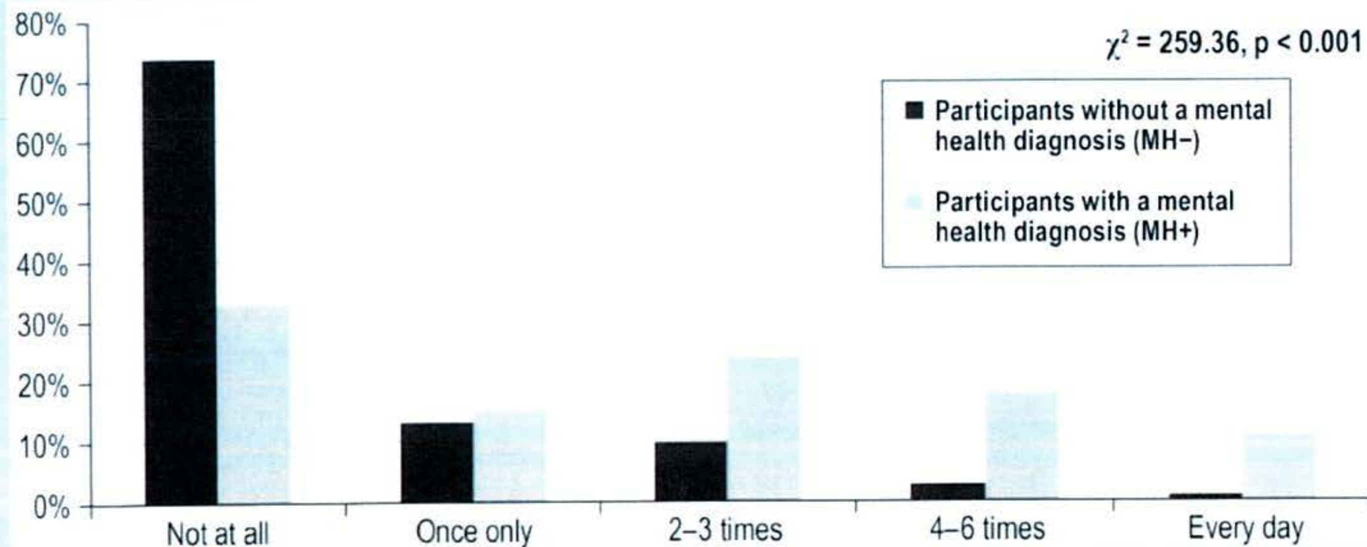
SLEEP 2013;36(7):1041-1050.

A Comparison of Sleep Difficulties among Iraq/Afghanistan Theater Veterans with and without Mental Health Diagnoses

Christi S. Ulmer, PhD[1,2], Elizabeth Van Voorhees, PhD[1,2], Anne E. Germain, PhD[3], Corrine I. Voils, PhD[1,4], Jean C. Beckham, PhD[1,2,5], the VA Mid-Atlantic Mental Illness Research Education and Clinical Center Registry Workgroup[5]

[1]Durham Veterans Affairs Medical Center, Durham, NC; [2]Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC; [3]University of Pittsburgh, Departments of Psychiatry and Psychology, Pittsburgh, PA; [4]Department of General Internal Medicine, Duke University Medical Center, Durham, NC; [5]VISN 6 Mental Illness Research, Education, and Clinical Center, Durham, NC

J Clin Sleep Med 2015;11(9):995–1005.



Distressing dreams of a traumatic event (frequency)

Nightmares

- Associated with anxiety, depression, and PTSD
- Associated with heightened risk of suicidal ideation
- Treatment can lead to improvement in comorbid anxiety, depression, and PTSD

Methods

- Retrospective review of 500 military personnel with sleep disturbances
  - 7 omitted due to incomplete data
- Medical record and PSGs evaluated for:
  - Pittsburgh Sleep Quality Index:
    - Nightmare/TRN
    - Self reported sleep measures
  - Standardized sleep questionnaires:
    - Epworth Sleepiness Scale (ESS)
    - Insomnia Severity Index (ISI)
  - Anxiety, depression, PTSD, TBI
  - PSG variables

Statistical Analysis

- α level of 0.05 was used to determine statistical significance
- Analysis of Variance (ANOVA) and the Wilcoxon rank sum test were used for pairwise comparisons
- Fisher's Exact test was used for comparisons of proportions
- Benjamini-Hochberg False Discovery Rate (BH-FDR) was used to assess for post-hoc statistical significance

Results

	Entire sample (N=493)	NDO (n=154)	Non-NDO (n=339)	Un-adjusted *p* Value
Demographics				
Age, years M±SD	37.7±8.99	37.8±9.02	37.7±8.99	0.909 [A]
Sex, Males % (No.)	78.5% (387)	73.4% (113)	80.8% (274)	0.076 [B]
Deployment, yes % (No.)	73.6% (363)	78.6% (121)	71.4% (242)	0.099 [B]
Self-reported measures, M±SD				
ESS score	12.6±4.78	12.9±4.94	12.4±4.71	0.405 [A]
ISI score	16.5±5.53	19.5±4.99	15.2±5.29	<0.001 [A,C]
Reported time in bed (hours)	7.23±1.30	7.34±1.37	7.18±1.27	0.229
Reported sleep time (hours)	5.21±1.43	4.78±1.46	5.40±1.38	<0.001 [A,C]
Reported sleep efficiency (%)	73.4±19.0	66.9±20.2	76.3±17.6	<0.001 [A,C]

[A] One-way ANOVA
[B] Comparison with Fisher's Exact test
[C] Statistically significant according to post-hoc analysis with the BH-FDR controlling procedure
ESS Epworth Sleepiness Scale; *ISI* Insomnia Severity Index

Results

Disorder group	NDO (n=154) % (No.)	Non-NDO (n=339) % (No.)	Un-adjusted p Value [A]	Relative risk NDO versus Non-NDO RR (95% CI)
Elevated daytime sleepiness (ESS score>10)	68.4% (104)	68.4% (232)	>0.99	-
Insomnia (ISI score≥15)	86.2% (131)	54.2% (182)	<0.001 [B]	1.59 (1.42 – 1.79)
OSA, % (No.)				
Overall occurrence	73.4% (113)	74.6% (253)	0.824	-
Severity			0.740	-
Mild (5<AHI≤15)	42.9% (66)	38.9% (132)	-	-
Moderate (15<AHI≤30)	16.2% (25)	19.2% (65)	-	-
Severe (AHI>30)	14.3% (22)	16.5% (56)	-	-
TBI	13.0% (20)	6.49% (22)	0.023	-
PTSD	42.2% (65)	8.26% (28)	<0.001 [B]	5.11 (3.43 – 7.62)
Anxiety	44.8% (69)	17.4% (59)	<0.001 [B]	2.57 (1.93 – 3.44)
Depression	42.9% (66)	12.1% (41)	<0.001 [B]	3.55 (2.52 – 4.98)

[A] Statistical comparisons between NDO and non-NDO groups with Fisher's Exact Test

[B] Statistically significant according to post-hoc analysis with the BH-FDR controlling procedure

ESS Epworth Sleepiness Scale; *ISI* Insomnia Severity Index; *TBI* Traumatic Brain Injury; *OSA* Obstructive Sleep Apnea; *PTSD* Post-Traumatic Stress Disorder

Results

PSG variables, M±SD	Entire sample (N=493)	NDO (n=154) % (No.)	Non-NDO (n=339) % (No.)	Un-adjusted *p* Value	Effect size r
SOL (min)	13.8±18.2	16.6±21.9	12.5±16.0	0.016 [B]	0.108
REM latency (min)	132±67.3	145±74.3	126±63.2	0.012 [B]	0.115
TST (min)	348±54.3	344±55.6	350±53.7	0.181 [B]	-
SE (%)	83.7±11.6	82.9±11.3	84.0±11.7	0.141 [B]	-
N1	11.8±8.91	11.6±8.53	11.8±9.09	0.966 [B]	-
N2	54.5±10.3	54.5±10.5	54.5±10.3	0.948 [A]	-
N3	17.1±9.43	17.6±9.77	16.9±9.28	0.583 [B]	-
REM	16.7±7.31	16.3±7.76	16.8±7.10	0.455 [A]	-
WASO (min)	53.8±39.4	53.7±37.2	53.9±40.5	0.755 [B]	-
AHI (events/h)	16.0±16.6	15.0±15.6	16.4±17.0	0.477 [B]	-
Arousal index (events/h)	22.8±14.8	22.3±14.4	23.0±15.0	0.638 [B]	-
Lowest oxygen desaturation (%)	82.2±21.6	81.7±22.5	82.4±21.2	0.601 [B]	-

[A] Statistical comparisons between NDO and non-NDO groups with one-way ANOVA

[B] Statistical comparisons between NDO and non-NDO groups with Wilcoxon rank sum test

[C] Statistically significant according to post-hoc analysis with the BH-FDR controlling procedure

AHI apnea hypopnea index; *SOL* sleep onset latency; *TST* total sleep time; *SE* sleep efficiency; *WASO* wake after sleep onset

Results

Variable	NDO only (n=61) % (No.)	TRN (n=93) % (No.)	Un-adjusted *p* Value	Effect size metric
Demographics				
Age, years M±SD	37.5±10.3	38.0±8.17	0.413 B	-
Sex, Males % (No.)	67.2% (41)	77.4% (72)	0.193 B	-
Deployment, yes % (No.)	60.7% (37)	90.3% (84)	<0.001 A,C	1.49 (1.20 – 1.82) D
Self-reported measures, M±SD				
ESS score	12.4±5.07	13.1±4.86	0.396 B	-
ISI score	17.9±4.78	20.5±4.86	0.001 B,C	0.268 E
PSG variables				
SOL (min)	16.4±24.5	16.7±20.1	0.921 B	
REM latency (min)	143±67.8	146±78.9	0.762 B	-
TST (min)	342±50.3	346±59.0	0.173 B	-
SE (%)	81.8±10.3	83.6±11.9	0.070 B,C	0.146 E
N1	12.1±8.19	11.3±8.77	0.341 B	-
N2	56.7±9.62	53.1±10.9	0.059 B,C	0.152 E
N3	15.0±8.57	19.3±10.2	0.011 B,C	0.206 E
REM	16.3±6.60	16.3±8.46	0.909 B	-
WASO (min)	59.3±36.7	50.0±37.2	0.044 B,C	0.162 E

PSG variables
SOL (min) 16.4±24.5 16.7±20.1 0.921 B
REM latency (min) 143±67.8 146±78.9 0.762 B
TST (min) 342±50.3 346±59.0 0.173 B
SE (%) 81.8±10.3 83.6±11.9 0.070 B,C
N1 12.1±8.19 11.3±8.77 0.341 B
N2 56.7±9.62 53.1±10.9 0.059 B,C
N3 15.0±8.57 19.3±10.2 0.011 B,C
REM 16.3±6.60 16.3±8.46 0.909 B
WASO (min) 59.3±36.7 50.0±37.2 0.044 B,C

Nightmare Disorder in Military Personnel

- 3.9% reported nightmares as a reason for sleep evaluation
- 31% reported at least weekly nightmares
- 60% of those with NDO, reported having TRN
- More common with anxiety, depression, PTSD, and TBI

Sleep Quality in NDO/TRN

- 86% of those with NDO had insomnia
- Insomnia symptoms worse in TRN
- Sleep quality improved on PSG in TRN

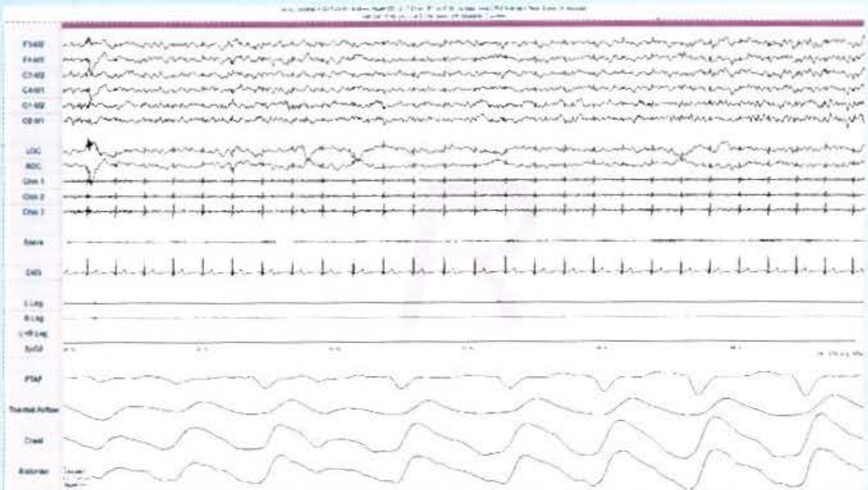
Conclusions

- Nightmare disorder is under-recognized in military personnel
  - Not exclusive to PTSD
- Presence of nightmares should be evaluated in military personnel:
  - After deployment/exposure to traumatic event
  - With mental health diagnosis/TBI
  - With sleep disorders
- Evaluation can lead to earlier treatment and improved outcomes

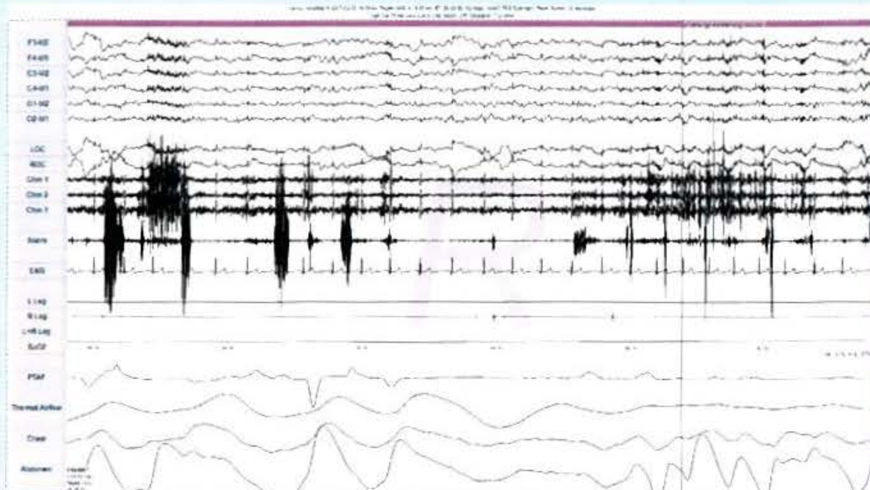
Acknowledgements

- Dr. Creamer
- Dr. Mysliwiec
- Dr. Matsangas

Observed Nightmare During PSG



First REM epoch of the night



Onset of DNB—pt screaming “No, No, Oh F**k!”

Title: An Initial Report on Nightmares in Active Duty Service Members with Sleep Disturbances

Abstract

Background: Sleep disturbances are common in active duty service members (ADSM) with previous studies focusing on insomnia and sleep disordered breathing. The prevalence of nightmares in veterans is higher than that of the general population. However, the rate of clinically significant nightmares and contribution to disturbed sleep in ADSM is unknown. The purpose of this study was to describe the frequency and associated clinical characteristics of nightmares in ADSM.

Methods: Retrospective review of 500 ADSM who underwent an evaluation and polysomnogram (PSG) at our sleep center. Scale scores and item-level data from the Pittsburgh Sleep Quality Index (PSQI) and the PSQI-Addendum were used to characterize ADSM either with or without clinically significant nightmares. Subjective and objective sleep characteristics to include the Epworth Sleepiness Scale, Insomnia Severity Index (ISI) scores as well as PSG variables, biometric parameters, and behavioral medicine disorders [anxiety, depression and posttraumatic stress disorder (PTSD)] were compared between groups.

Results: The rate of clinically significant nightmares was 31% utilizing the criteria of having bad dreams at least once a week on the PSQI; yet, only 4% reported nightmares as a reason for their sleep evaluation. Nightmares were related to prior traumatic events in 62%. On PSG those with nightmares had an increased REM latency (mean 145 minutes) compared to those without (mean 126 minutes, P=0.006). Characteristics associated with nightmares were depression (adjusted OR, 5.45 [95% CI, 3.45-8.61]), anxiety (adjusted OR, 3.85 [95% CI, 2.52-5.89]), PTSD (adjusted OR, 8.11 [95% CI, 4.91-13.40]), and insomnia (adjusted OR, 5.28 [95% CI, 3.18-8.78]).

Conclusion: Clinically significant nightmares are frequently present in ADSM with sleep disturbances when specifically queried. Nightmares contribute to both subjective and objective sleep disturbances. Individuals with mental health diagnoses and insomnia were at increased odds of having bad dreams. Nightmares are likely under-recognized in ADSM and treating this sleep disorder can improve the overall sleep and health of this population.

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