

# STRONG STAR

South Texas Research Organizational Network Guiding Studies on Trauma And Resilience



Presentation to: SURF 2020  
Presentation by: Kelsi Gerwell, PhD; June 25, 2020  
"Sleep Disorders in Military Women"

# Sleep Disorders in Military Women

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**Funding:** This work is supported by Defense Medical Research and Development Program, Defense Health Agency, Clinical Research Intramural Initiative for Military Women's Health Research Award, Funding Opportunity Number: DHA-17-CR11-MWHRA

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# STRONG STAR



- What is it?
  - The **S**outh **T**exas **R**esearch **O**rganizational **N**etwork **G**uiding **S**tudies on **T**rauma and **R**esilience
  - A multidisciplinary and multi-institutional research consortium to develop and evaluate the most effective early interventions possible for the detection, prevention, and treatment of combat-PTSD and related conditions in active-duty military personnel and recently discharged veterans.

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# Sleep Disorders in Military Women

## Research Study

- The main objective of this project is to conduct a prospective observational study of military personnel. Up to 600 service members will be consented to screen and enroll up to 480.
- Examining sex and gender roles and military service-associated factors as well as biological characteristics that may impact sleep and sleep therapy treatment.

# Why This Matters

- Sleep is increasingly being recognized as a marker of overall psychological health and resilience (Seelig et al., 2010)
  - Military personnel may be at higher risk for developing sleep disorders which negatively impact health, resilience and operational readiness (Young-McCaughan & Bingham, 2011)
- The unique risk factors of how sleep disorders relate to military women's health are poorly understood
  - Nearly all sleep studies on sleep disorders in military personnel have focused on men, resulting in a lack of understanding of the basis and impact of sleep disorders on military women's health

# Demographics

\* Percentages have been rounded

Age	n (%)
18-25	13 (7%)
26-39	98 (51%)
40+	82 (42%)
Race	n (%)
African American	34 (18%)
Asian	6 (3%)
Caucasian	133 (69%)
Native American	2 (1%)
Pacific Islander	2 (1%)
Other	16 (8%)
Marital Status	n (%)
Divorced/Separated	22 (11%)
Married/Living with Partner	148 (76%)
Single/Not Living with Partner	24 (13%)

# Demographics (Contd.)

\* Percentages have been rounded

Sex	n (%)
Male	123 (63%)
Female	71 (37%)
# of Children/Step-Children	n (%)
0	46 (24%)
1-2	75 (39%)
3-4	57 (29%)
5+	15 (8%)
Highest Level of Education	n (%)
High School Diploma	8 (4%)
Some College	27 (14%)
Associate's Degree	53 (28%)
4-Year College Degree	49 (25%)
Master's Degree	43 (22%)
Doctoral Degree	13 (7%)

# Demographics (Contd.)

\* Percentages have been rounded

Branch of Service	n (%)
Air Force	89 (46%)
Army	76 (39%)
Marines	6 (3%)
Navy	22 (12%)

Rank	n (%)
Enlisted	136 (70%)
Officer	53 (28%)
Warrant Officer	4 (2%)

Years in Service	n (%)
0-10.99	44 (23%)
11-20.99	106 (55%)
21+	43 (22%)

# Sleep Disorders in the Military

- Sleep disturbances are reported in approximately 1/3 of military service members who have deployed in overseas operations (Seelig et al, 2010).
- Obstructive sleep apnea is the most frequently diagnosed sleep disorder, followed by insomnia
- Sleep difficulties are often key symptoms of other health conditions and can also precipitate other health conditions, including an increased risk of suicide (Taylor et al., 2005; Weissman et al, 1997)

# Sleep Disorders and Sleep Quality

Measure	Average Total Score (Men)	Average Total Score (Women)
Epworth Sleepiness Scale (ESS)	12.9	11.5
Insomnia Severity Index (ISI)	16.7	18.3

  

Nightmare Disorder Index	Men	Women
Average Score (0-4)	.97	1.3
0 Nights Per Week	47 (38%)	18 (26%)
< 1 Night Per Week	40 (33%)	22 (31%)
1-3 Nights Per Week	29 (24%)	23 (32%)
4-6 Nights Per Week	7 (5%)	7 (10%)
7 Nights Per Week	0 (0%)	1 (1%)

\* Percentages have been rounded

# Sleep Disorders and Sleep Quality (Contd.)

Shift Work Disorder Index (Item 1)	Men n (%)	Women n (%)
0 Nights Per Week	66 (54%)	41 (59%)
<1 Night Per Week	14 (11%)	9 (13%)
1-3 Nights Per Week	21 (17%)	5 (7%)
4-6 Nights Per Week	21 (17%)	14 (20%)
7 Nights Per Week	1 (<1%)	1 (1%)

Military Service Sleep Assessment (Primary Problem)	Men n (%)	Women n (%)
Trouble Falling or Staying Asleep	49 (41%)	38 (55%)
Choking/Gasping	14 (12%)	5 (7%)
Grinding Teeth	1 (<1%)	1 (1%)
Daytime Sleepiness	17 (14%)	4 (6%)
Nightmares/Bad Dreams	2 (2%)	3 (4%)
Legs bothering	1 (<1%)	1 (1%)
Lack of Daytime Energy	18 (15%)	11 (16%)
Snoring	14 (12%)	2 (3%)
Other	5 (4%)	5 (7%)

\* Percentages have been rounded

# Mental Health

Measure	Average Total Score (Men)	Average Total Score (Women)
GAD-7 (Anxiety)	8.5	10.4
PHQ-9 (Depression)	10.0	11.2
PCL-5 (PTSD)	23.0	28.4
RSES (Resilience)	61.8	58.8

# Conclusions and Future Directions

- Preliminary data shows that military factors may play a role in sleep differences between men and women
- Differences in overall mental health and wellbeing
- Assess biomarker differences in men and women
- Evaluate if there are differential responses between women and men on active duty after receiving standard sleep-focused therapies

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