Understanding Disrupted Sleep and its Implications on Symptoms for Older Adults Living with HIV

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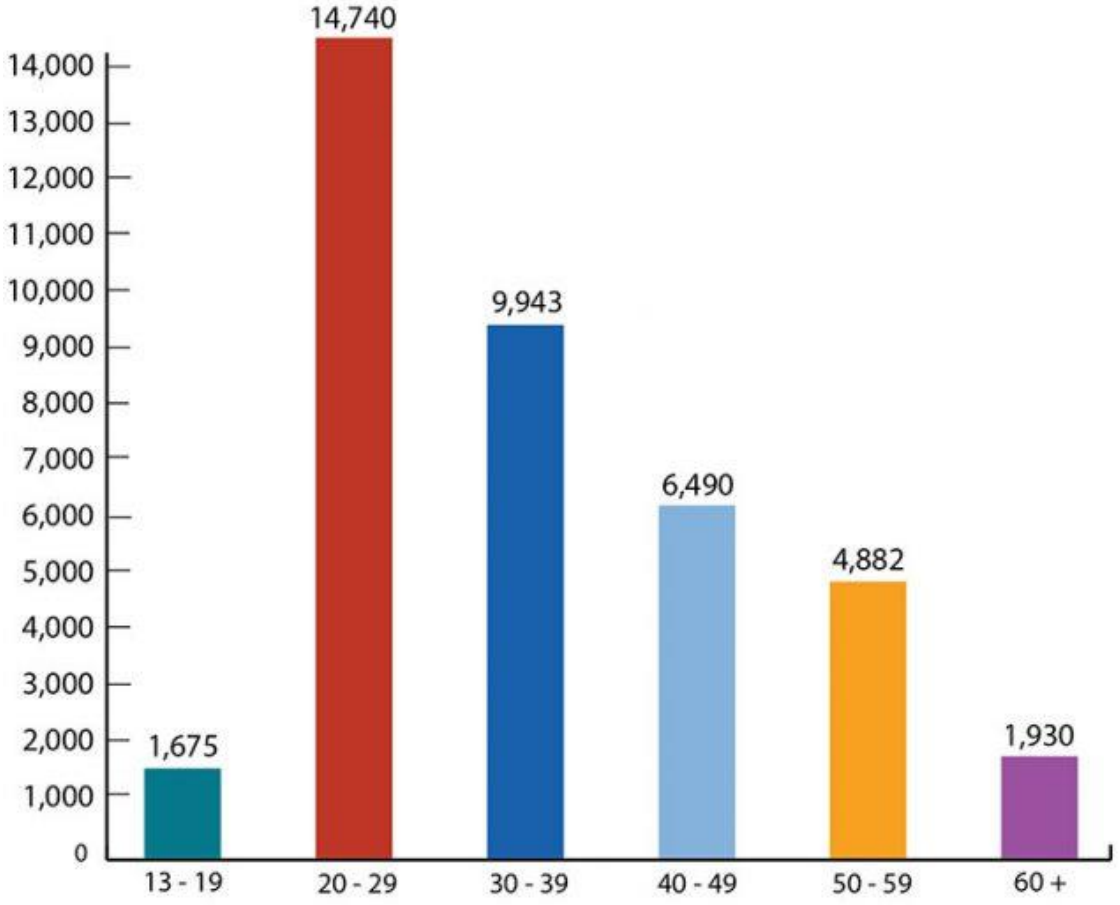
Background

- More than 70% of Older Adults reported sleep problems
- Sleep problems are largely undiagnosed
- Sleep problems are not treated
- Sleep problems have been linked to poorer prognosis, faster disease progression and increased mortality

New HIV Diagnoses in U.S. By Age

(CDC for 2016)



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Population Examined: Older Adults Living with HIV

- In about 10 years 70% of all persons living with HIV will be over the age of 50
- People over 50 have 17% of new HIV diagnoses
- Among those, 42% were black/African American
- 37% were Whites
- 18% were Hispanic/Latinos
- 49% were among gays and bisexuals, 15% heterosexual men, 24% heterosexual women

Theory of Unpleasant Symptoms

- Uses subjective symptom experience while:
- Examining symptoms individually
- Examining the catalyzing effect of two or more symptoms together:
  - Creates more intense experience than simply the additive effect of the symptoms
  - Can provide ideas for new ways of intervening

Demographics

- 43 Participants completed the study
- Mean age was 57±5.8
- 63% identified as male
- 72% Black, 26% White, 2% Other
- Mean years of education was 13.2±2.6
- 23% Employed full time, 20% Unemployed
- 30% Disabled, 14% Retired
- 54% Lived alone

Demographics

- 65% Currently drank alcohol
- 23% drank in the past but no longer drank
- 23% used non-prescribed medications/drugs
- 51% used previously, but no longer
- 49% smoked cigarettes
- 28% smoked in the past but had quit

Health Demographics

- Mean CD4 Count 642±344 (Range 59-1252)
- Nadir CD4 Count 218±208 (Range 3-780)
- 73% had undetectable VL (Range 0-56)
- Mean # of years on HIV meds was 19.6±16

Methods

This study used both subjective and objective tools to measure sleep:

Subjective

- Pittsburgh Sleep Quality Index (PSQI)
- Epworth Sleepiness Scale (ESS)
- Sleep Diary

Objective

- Wrist Actigraphy

Methods

This study used both subjective and objective tools to measure other variables:

Subjective

- Epworth Sleepiness Scale (ESS)
- Fatigue Scale
- Symptom List

Objective

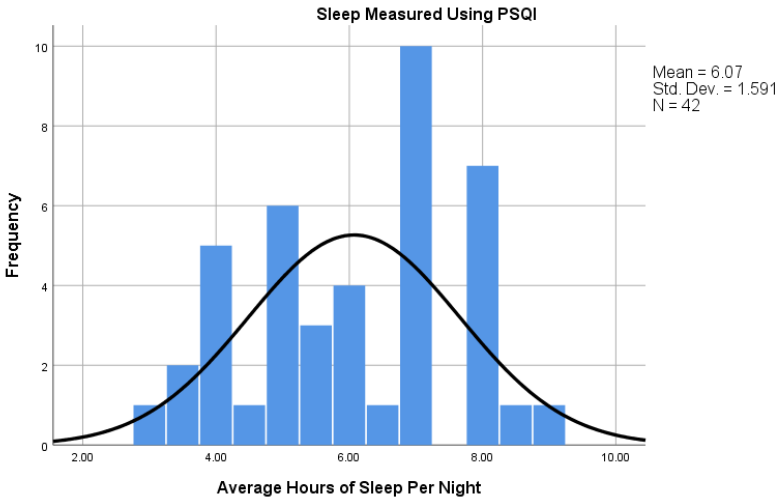
- NIH Toolbox Cognition Battery
- Montreal Cognitive Assessment (MoCA)

Sleep

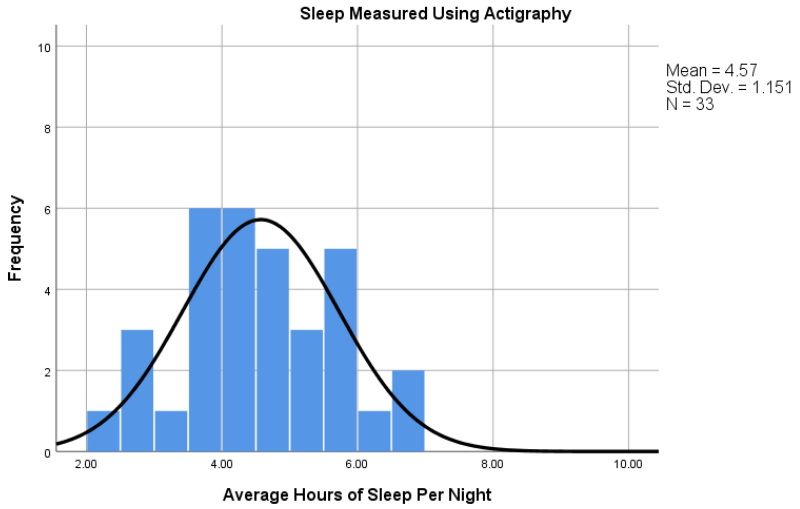
- Best practice for older adults is to include both subjective and objective sleep measures when assessing sleep in older adults
- This study supports previous studies that have shown perceived sleep significantly different from objective sleep data
- While using the sleep lab is considered the gold standard, it is expensive and difficult for participants

Comparison of PSQI to Actigraphy

PSQI Sleep



Actigraphy Sleep



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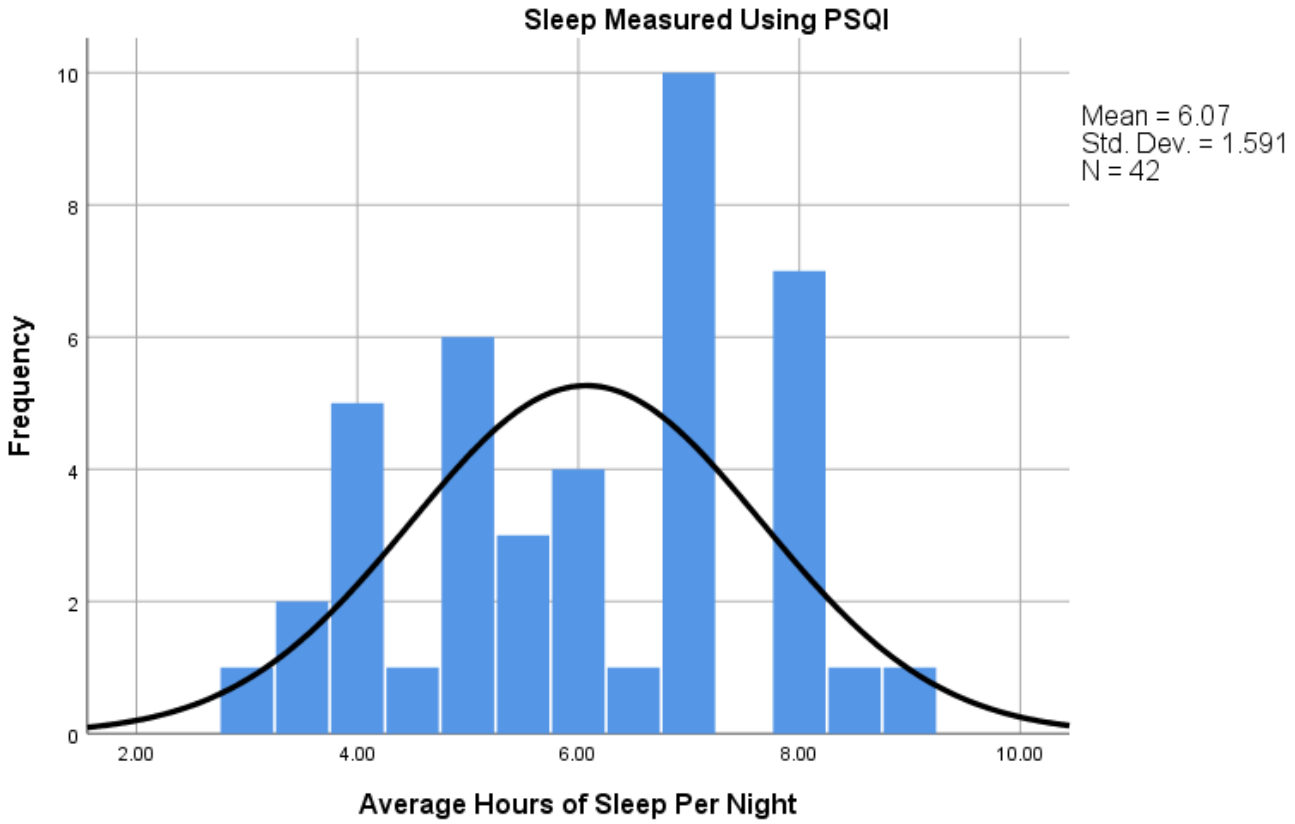
Sleep Measured Using PSQI



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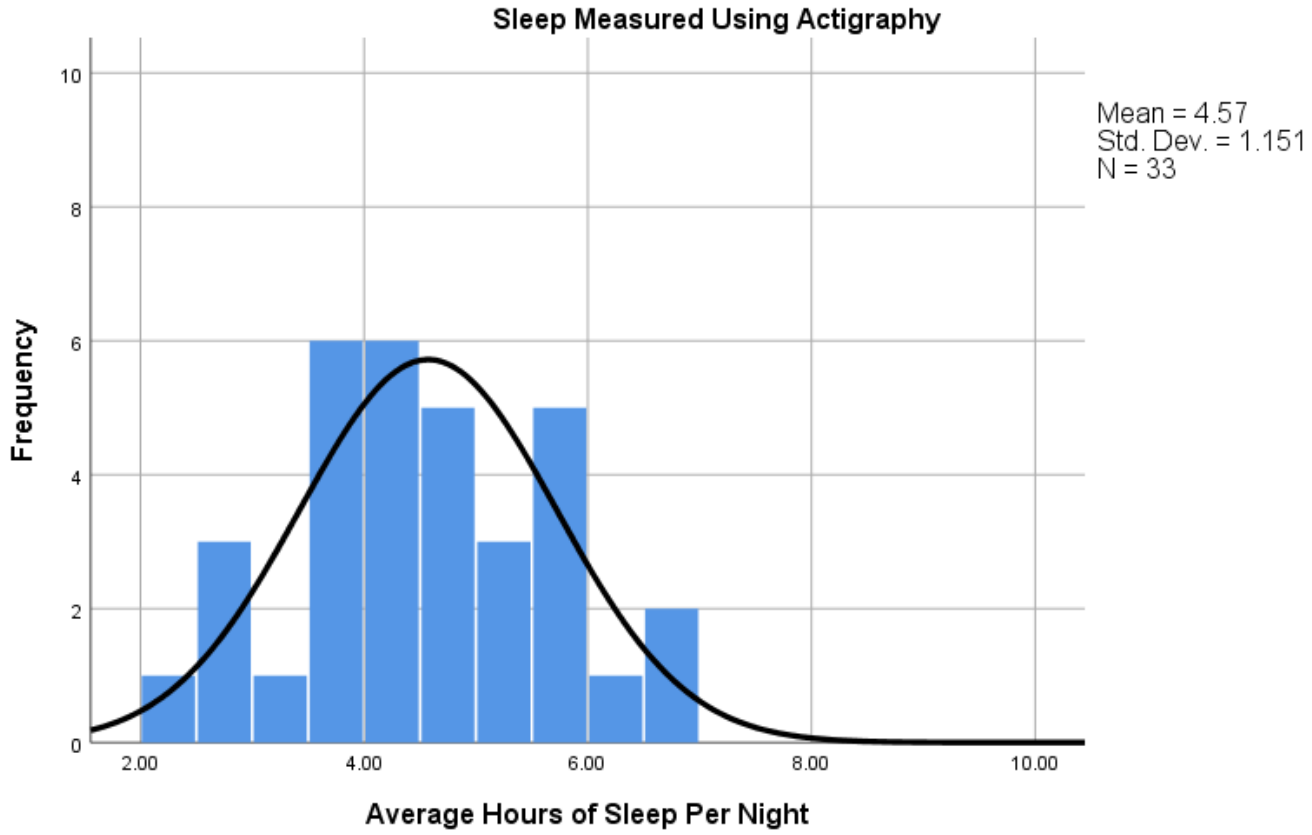
Sleep Measured Using Actigraphy



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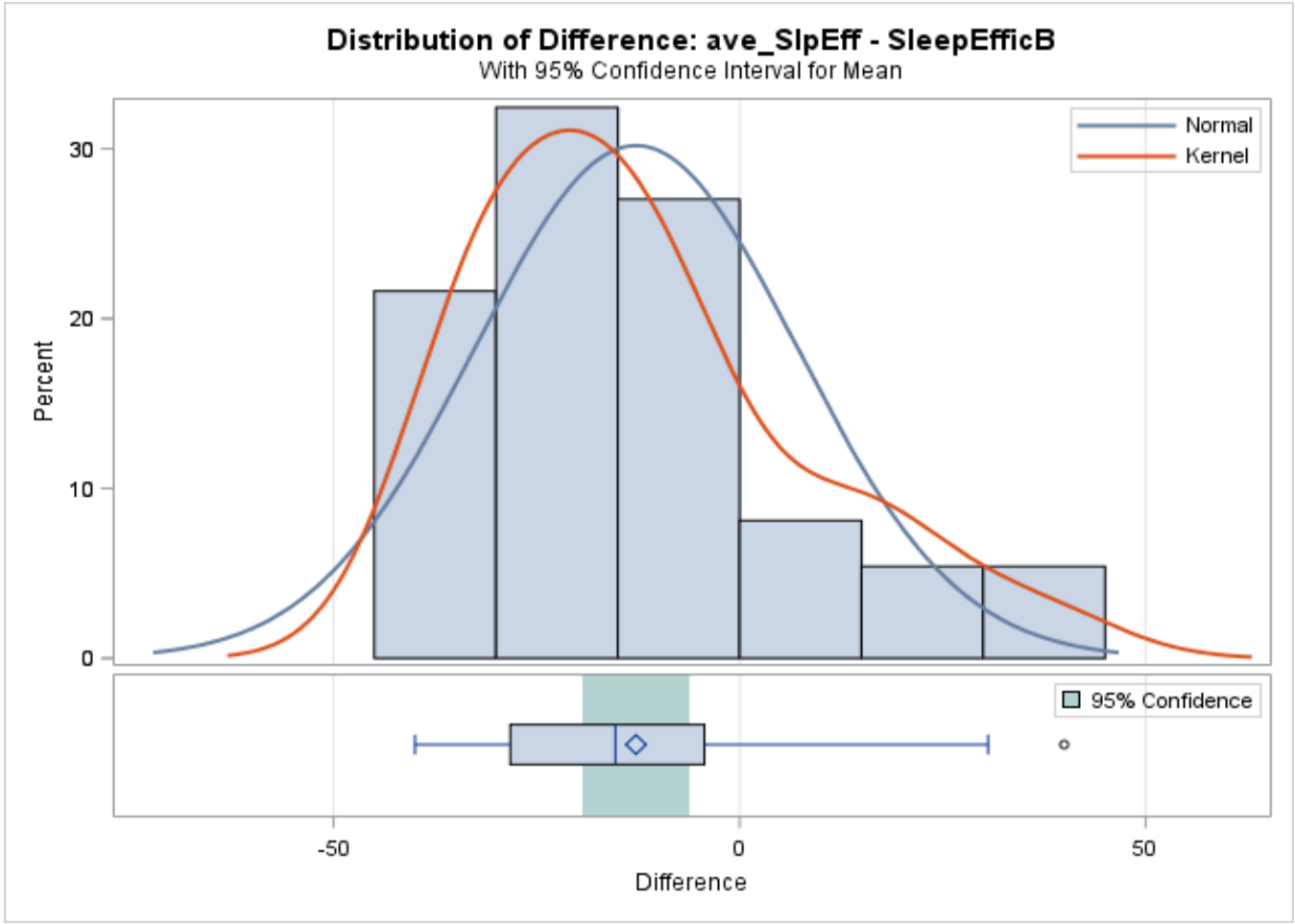

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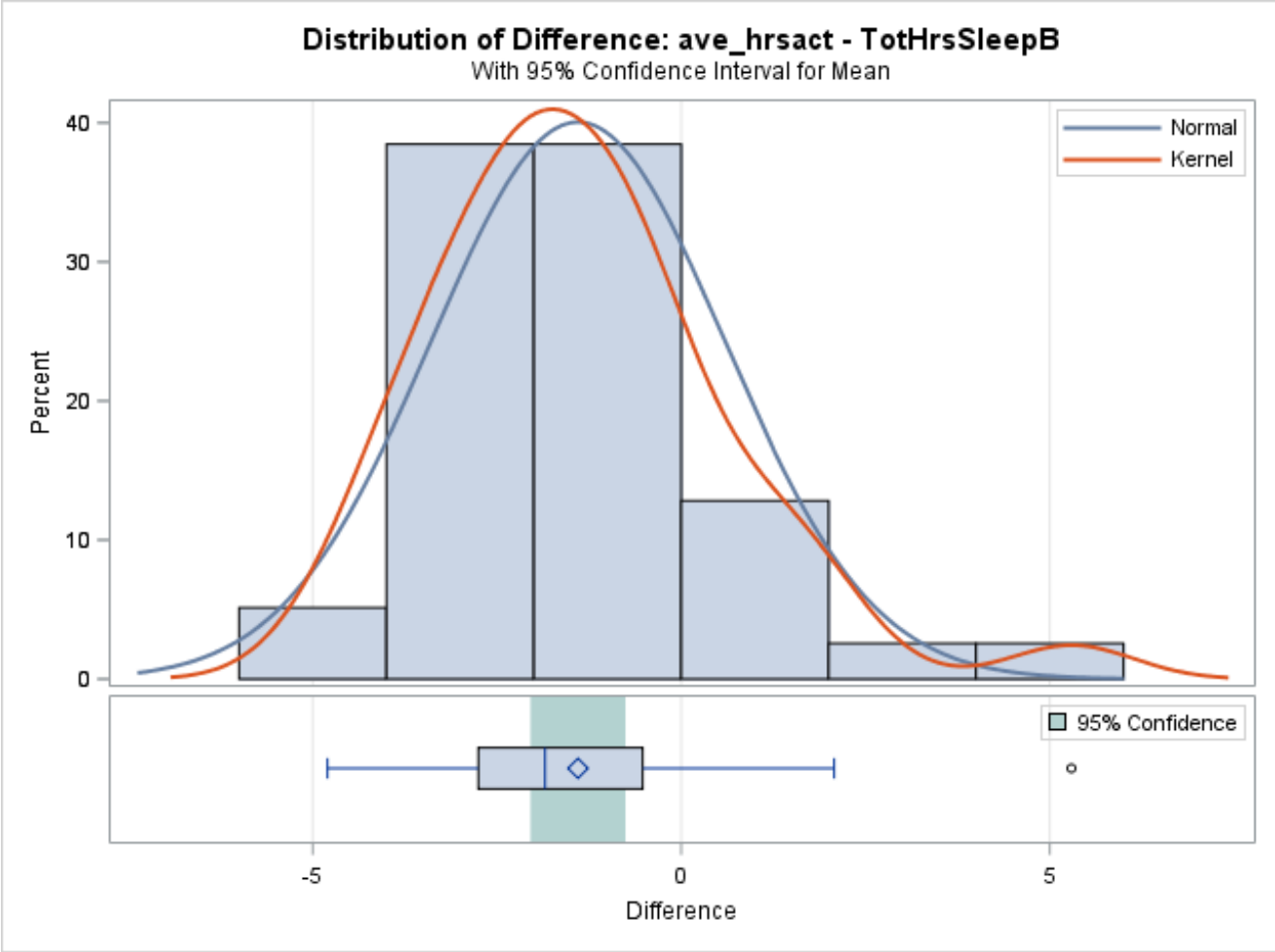

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Symptom Severity and Global Sleep

Symptom	Pearson Correlation	P value
Pain, Numbness, Tingling	.359	.040
Cough/Trouble Catching Breath	.421	.015
Loss of Appetite/Taste Changes	.513	.002
Weight Loss/Wasting	.446	.009
Hair Loss/Changes	.344	.050
Total Symptom Severity	.393	.024

Symptom Severity and Sleep Duration

Symptom	Pearson Correlation	P Value
Headache	-.373	.030
Loss of Appetite/Taste Changes	-.376	.028

Symptom Severity and Sleep Efficiency

Symptom	Pearson Correlation	P value
Diarrhea	-.347	.048
Loss of Appetite/Taste Changes	-.332	.059

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Symptom Severity and Sleep Duration (Actigraphy)

Symptom	Pearson Correlation	P Value
Cough/Trouble Breathing	-.448*	.025

Cognition and Subjective Sleep Correlations

	Sleep Duration	Sleep Efficiency	MoCA	Toolbox Cognition
Sleep Duration	_	.587**	.380*	.375*
p		.000	.013	.014
Sleep Efficiency		_	.395*	.507**
p			.011	.001
MoCA			_	.501**
p				.001
Toolbox Cognition				_

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Conclusions

- It seems important to collect more than one measure of sleep for older adults living with HIV
- Subjectively or objectively sleep is very poor for this population and it is negatively affecting many aspects of life
- Finding methods of improving sleep would enhance quality of life and may reduce morbidity and mortality

Next Steps

- Increase number of participants
- Increase length of actigraphy measurement
- Introduce sleep intervention (RCT)
- Substudy with qualitative sleep measure
- Add adherence data to study