

The Relationship of Pain, Sleep, Mood and Function in a Community Sample

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Introduction

- The impact of pain on sleep processes has been sparsely studied and not fully understood among most individuals in the health field.
- In studying the affects of the high prevalence of sleep disorders and the high incidence of pain reactions, we can begin to understand the suffering of people in a community.
- In this study, we assessed various components of pain and their relationship with sleep through the use of SPSS.

Problem

- The main concern with correlation studies is that there may be missing data which could subsequently cause inconsistent relationships between variables.
- For example having an incorrect number of subjects could skew data by not accounting for subjects with different ages.
- Previous literature has shown that the more diverse and numerous a sample size is, the more objective a measurement on variables can be accurately shown.

Methods

- Design:** This study is the analysis of variables involving a large (n=299) study of community based participants.
- Measures:** Age, sex, PROMIS-57, ISI and ESS questionnaires, actigraphy, and the Apnealink device.
- Study Procedure:** Data entry, calculation of component scores of PROMIS data then descriptive and correlation analysis.

Age	Frequency	Percent
18-35	149	40.9
35-55	88	24.2
>55	64	17.6

Sex	Frequency	Percent
Male	91	32%
Female	193	68%

Conclusions

- The results suggest that out of the 54 possible correlations, 40 were statistical significant. Of those, 22 were weak, 12 were moderate and 6 were strong correlations.
- Strong Relationship:
 - fatigue and ISI (+)
 - anxiety and ISI (+)
 - total sleep time and ISI (+)
 - total social role and total fatigue (-)
 - total pain interference and physical functioning (-)
- Moderate Relationships:
 - total depression and ISI, total anxiety (+)
 - total fatigue and total anxiety, total depression (+)
 - total sleep time and total anxiety, total depression (+)
 - total social role and ISI (-), physical functioning (+), total anxiety(-), total depression(-), total sleep(-)
 - AHI and age (+)
- Weak Relationships: consistent with findings
- There is a significant relationship between Pain, BMI, Age, Quality of Sleep, Physical Functioning, Anxiety, Depression, fatigue, total Sleep Time, and Satisfaction with Social Role. All these variables should be addressed when caring for a patient with pain that interferes with their function.

Results -- Correlation Matrix n=299

	BMI	Age	ISI Total Score	Physical Functioning	Total Anxiety	Total Depression	Total Fatigue	Total Sleep	Total Social Role	Total Pain Interference
Age	R: .304 P: .000	--								
ISI Total Score	R: .123 P: .037	P=NS	--							
Physical Functioning	R: -.318 P: .000	R: -.315 P: .000	R: -.302 P: .000	--						
Total Anxiety	P=NS	R: -.146 P: .013	R: .517 P: .000	R: -.141 P: .017	--					
Total Depression	P=NS	P=NS	R: .438 P: .000	R: -.193 P: .001	R: .596 P: .000	--				
Total Fatigue	P=NS	P=NS	R: .655 P: .000	R: -.287 P: .000	R: .582 P: .000	R: .434 P: .000	--			
Total Sleep Time	R: .147 P: .013	P=NS	R: .825 P: .000	R: -.257 P: .000	R: .522 P: .000	R: .390 P: .000	R: .641 P: .000	--		
Total Social Role	R: .131 P: .027	P=NS	R: -.511 P: .000	R: .425 P: .000	R: -.523 P: .000	R: -.489 P: .000	R: -.642 P: .000	R: -.467 P: .000	--	
Total Pain Interference	R: .220 P: .000	R: .199 P: .001	R: .371 P: .000	R: -.619 P: .000	R: .186 P: .002	R: .262 P: .000	R: .348 P: .000	R: .368 P: .000	R: -.310 P: .000	--
AHI	R: .334 P: .000	R: .407 P: .000	P=NS	R: -.139 P: .020	P=NS	P=NS	P=NS	P=NS	P=NS	P=NS

Legend
 Negative Significant Relationship
 Positive Significant Relationship

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