



Sleep Disturbances and Sexual Dysfunction in Patients with Gluten-Associated Disorders: The UCLA Celiac Collective



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INTRODUCTION

- Sleep disturbances and sexual dysfunction are well documented in patients with gluten-associated disorders (GAD)
- However, the effect of strict adherence to a gluten-free diet (GFD) on these symptoms is less understood, largely due to a lack of a large-scale study population

AIM

- UCLA Celiac Collective is a large e-cohort of subjects with self-reported GAD who complete a battery of online tools to assess dietary adherence barriers
- Primary outcomes in this e-cohort are GFD adherence and the prevalence of sleep disturbance or sexual dysfunction in adherent versus non-adherent subjects, compared to the general population

METHODS

- **Validated surveys** were sent in 2022 to participants enrolled in the Celiac Collective registry
- This cross-sectional study incorporated demographic data and medical history, along with:
 - Patient-Reported Outcomes Measurement Information System (PROMIS) domains of sleep disturbance and sexual function
 - Celiac Dietary Adherence Test (CDAT) for GF dietary adherence
 - Celiac Symptom Index (CSI) for clinical severity
 - Treatment Self-Regulation Questionnaire (TSRQ) from the Self Determination Theory (SDT) to assess types of motivation
- **Statistical analysis** was conducted using chi-square, Fisher's exact and Wilcoxon rank-sum tests

DEMOGRAPHICS OF ENTIRE REGISTRY

Sex	261 females (87.9%)	Formal Education	
Age (years)	47 (range 18-90)	Grade School	2 (0.7%)
Race		High School	8 (2.7%)
White	260 (95.2%)	Associates / Vocational	38 (12.8%)
Black	3 (1.1%)	Bachelor's	125 (42.1%)
Asian/Pacific Islander	6 (2.2%)	Master's	62 (20.9%)
Other	4 (1.5%)	Doctoral	27 (9.1%)
Unknown	176	Other	8 (2.7%)

SURVEY DATA

SLEEP DISTURBANCE	Yes (n=24)	No (n=13)	SEXUAL DYSFUNCTION	Yes (n=22)	No (n=4)
CDAT			CDAT		
Fair/Poor Adherence	15 (71.4%)	5 (62.5%)	Fair/Poor Adherence	14 (66.7%)	3 (75.0%)
Good Adherence	6 (28.6%)	3 (37.5%)	Good Adherence	7 (33.3%)	1 (25.0%)
CSI			CSI		
Active	2 (9.5%)	3 (37.5%)	Active	5 (25.0%)	0 (0.0%)
Moderate	15 (71.4%)	3 (37.5%)	Moderate	12 (60.0%)	3 (75.0%)
Remission	4 (19.0%)	2 (25.0%)	Remission	3 (15.0%)	1 (25.0%)
PROMIS-29 Sleep (Mean)	10.2	6.6			
Amotivaton TSRQ (Mean)	6.2	3.4			

CONCLUSION

- Preliminary results demonstrate that 64.9% and 84.6% of subjects with GAD have sleep disturbance or sexual dysfunction, respectively
 - Both are higher rates than seen in the general population
- Sleep disturbances are associated with shorter disease duration and higher amotivation
- Sexual dysfunction is associated with longer disease duration and female sex

DISCUSSION

- This study demonstrated that patients with GAD have more sleep and sexual dysfunction (+15% and +35%, respectively) compared to the general population
- They tend to have worse psychological distress than people with GAD without these disturbances
- Female sex, disease duration, and autonomous (intrinsic) versus controlled (extrinsic) motivation also affect rates of sexual dysfunction and sleep disturbances in patients with GAD
 - **Providers can target sleep quality and sexual function to improve quality of life of people with GAD**

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