

# Exploring the Association of Treatment for PTSD on Presence of Comorbid Migraine Headaches in Patients



Ember Szaflarski, Quantitative Analysis Center, Wesleyan University



## Introduction

- Post-traumatic stress disorder (PTSD) is a mental disorder that develops after direct or indirect exposure to a traumatic event and results in a myriad of symptoms in the patient that are associated with memories of the event
- Both medications, such as fluoxetine, and types of psychotherapy, such as Cognitive Therapy for PTSD, have shown efficacy in treating the disorder
- Researchers have found that greater social support is associated with a decrease in PTSD symptoms over time
- PTSD is highly comorbid with physical chronic pain conditions, such as migraines
- In addition to treatments for PTSD, current research has focused on potential biological links between PTSD and migraine symptoms

## Research Questions

- 1) Does receiving treatment for PTSD have any correlation with presence of migraines in patients?
- 2) Which treatment categories, if any, produce that correlation?
- 3) After controlling for social support, would the correlations change?

## Methods

### Sample

- Participants diagnosed with PTSD (n=302) were drawn from Wave 5 of the National Longitudinal Study of Adolescent to Adult Health (AddHealth)
- AddHealth collects various demographic, economic, social, and health information on participants in the United States over time, starting from adolescence into adulthood
- By the Wave 5 survey, the sample had reached their late 30s or early 40s

### Measures

- Presence of a post-traumatic stress disorder was indicated by answering “yes” to the question, “Has a doctor, nurse, or other health care provider ever told you that you have or had post-traumatic stress disorder or PTSD?”
- Treatment categories
  - 1) those who had taken prescribed medication for PTSD, as indicated by answering “yes” to the question, “During the past 4 weeks, have you taken any prescription medication for post-traumatic stress disorder or PTSD?”
  - 2) those who had recent counseling, as indicated by answering “yes” to the question, “In the past 12 months, have you received psychological or emotional counseling?”

- 3) those who took medication AND received counseling
- 4) those who were not involved with either treatment
- Presence of migraines was indicated by answering “yes” to the question, “Have you ever had five or more headaches that were at least 4 hours long; one-sided, pulsating, intense, or worsened by activity; and associated with nausea, vomiting or sensitivity to light or sound?”
- Social Support Score
  - a quantitative score variable measured on a scale from 0 to 4, adding 1 for each form of support (trustworthy friends, reliable friends, trustworthy family, reliable family) the participant indicated

## Results

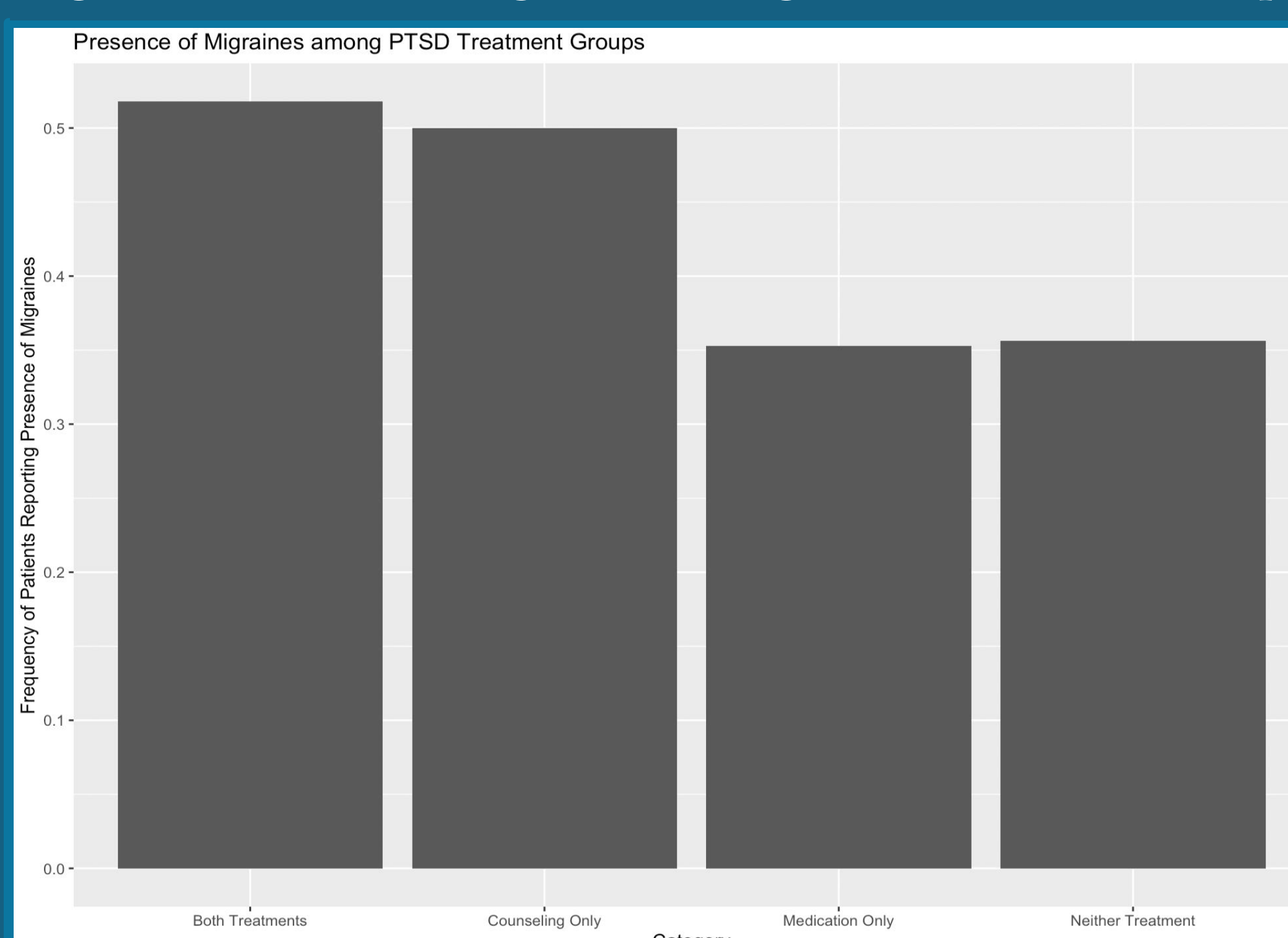
### Univariate

- 44% of study participants with PTSD experience migraines
- Treatment categories:
  - MEDICATION ONLY – 6% of participants
  - COUNSELING ONLY – 34% of participants
  - BOTH TREATMENTS – 21% of participants
  - NEITHER TREATMENT – 39% of participants
- Most study participants with PTSD did not receive either treatment

### Bivariate

- After post-hoc Bonferroni adjustment, a Chi-Square test of independence **did not indicate any significant differences in presence of migraines between treatment groups**

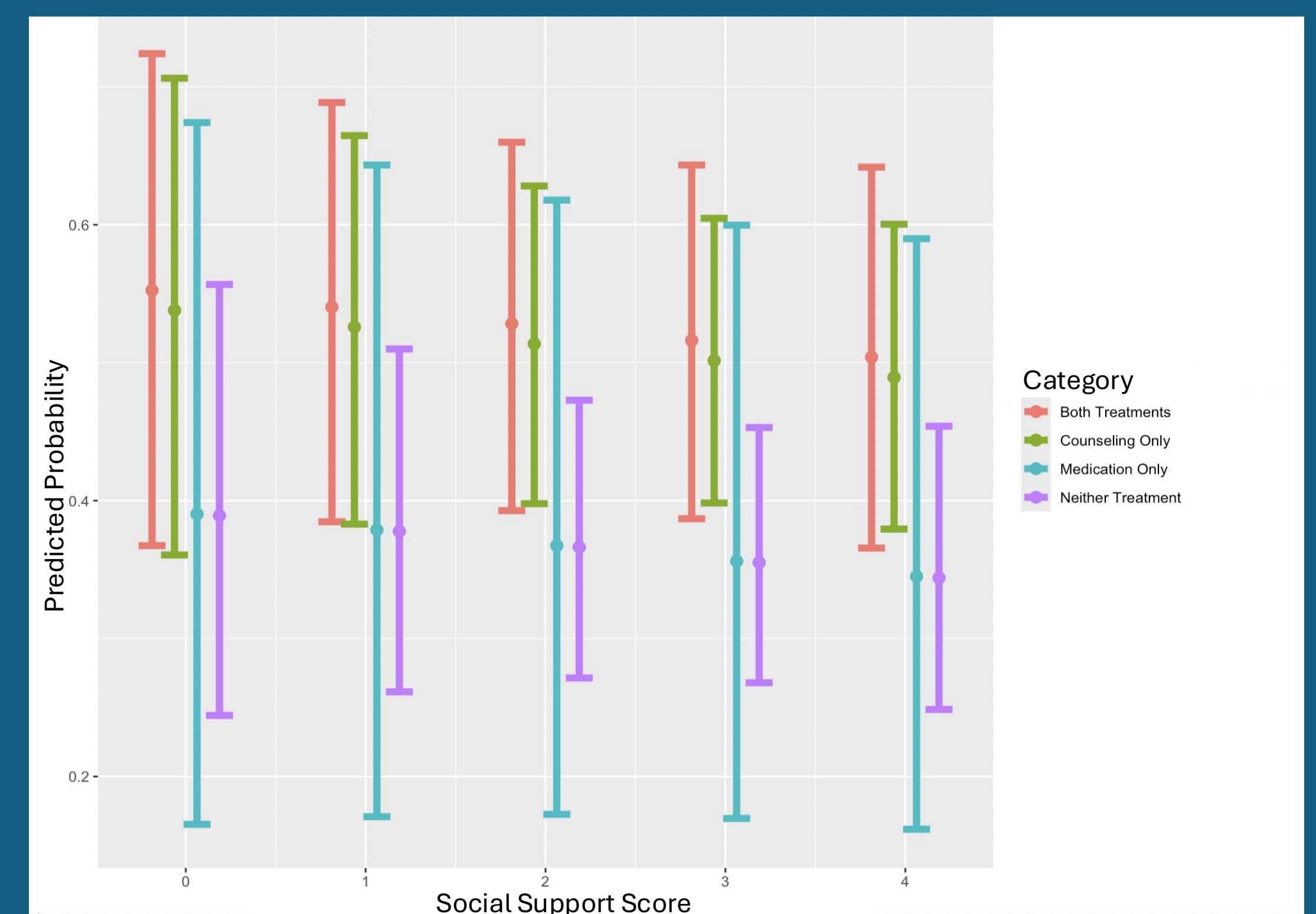
Figure 1: Presence of Migraines among PTSD Treatment Groups



### Multivariate

- Multiple logistic regression analysis suggest, in comparison to the control group, **receiving counseling only is significantly associated (p<0.05) with greater presence of migraines (O.R.= 1.8274197 CI=1.0202500-3.300184) after controlling for social support**
- In comparison to the control group, **receiving both treatments is marginally associated (p=0.0509) with greater presence of migraines (O.R.= 1.9374831 CI=0.9994562-3.786002) after controlling for social support**

Figure 2: Odds of Experiencing Migraines per Treatment Group after Controlling for Social Support Score



## Discussion

- Greater social support score may be a protective factor for experiencing migraines in PTSD patients who have undergone recent psychological counseling, or who have both undergone recent psychological counseling and recently been prescribed medication
- While no significant differences were found between groups without controlling for social support, there was still a greater amount of patients in the Counseling Only and Both Treatments categories who experienced migraines
  - A possible explanation could be that patients who experience worse PTSD-related symptoms are more likely to be referred to counseling
- Dataset only included information on recent medication (past 4 weeks) and counseling (past year); could not take account of improvement with treatment over time
  - Datasets for previous AddHealth Waves did not include sufficient data to track improvement over time
- Overall, findings proved mostly inconclusive, and therefore further research is required on the relationship between mental health treatments, social support and migraines in PTSD patients, particularly over time

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