

Impact of Exercise, Diet, and Sleep on Stress Levels in Hispanic and Non-Hispanic Population



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Background

Stress is a normal occurrence and defined as the body and brain's natural response to any demand, challenge, or perceived threat. Cortisol is a hormone released when the body experiences stress. Elevated levels of cortisol can negatively affect the body (Harding et al., 2023).



Fifty percent of Americans experience stress daily. The Hispanic population represents 18% of the U.S. population. Research indicates that this population experiences higher levels of stress compared to other ethnicities. Exercise, diet, and sleep are modifiable risk factors that impact stress levels (American Psychological Association 2024).

The American Heart Association recommends 150 minutes per week of moderate activity, which can help reduce stress levels (AHA, 2026). A healthy diet and adequate sleep can also help reduce cortisol levels in the body; however, one-third of Americans consume fast food, and 38% do not meet the recommended seven hours of sleep per night (CDC.gov).

Purpose

Explore the impact of exercise, diet, and sleep on stress levels or perceptions of stress among Hispanic and Non-Hispanic populations.



Methods

- Covidence® platform
- Databases searched included PubMed, CINAHL, and Scopus
- Search terms included exercise, diet, sleep, perceived stress

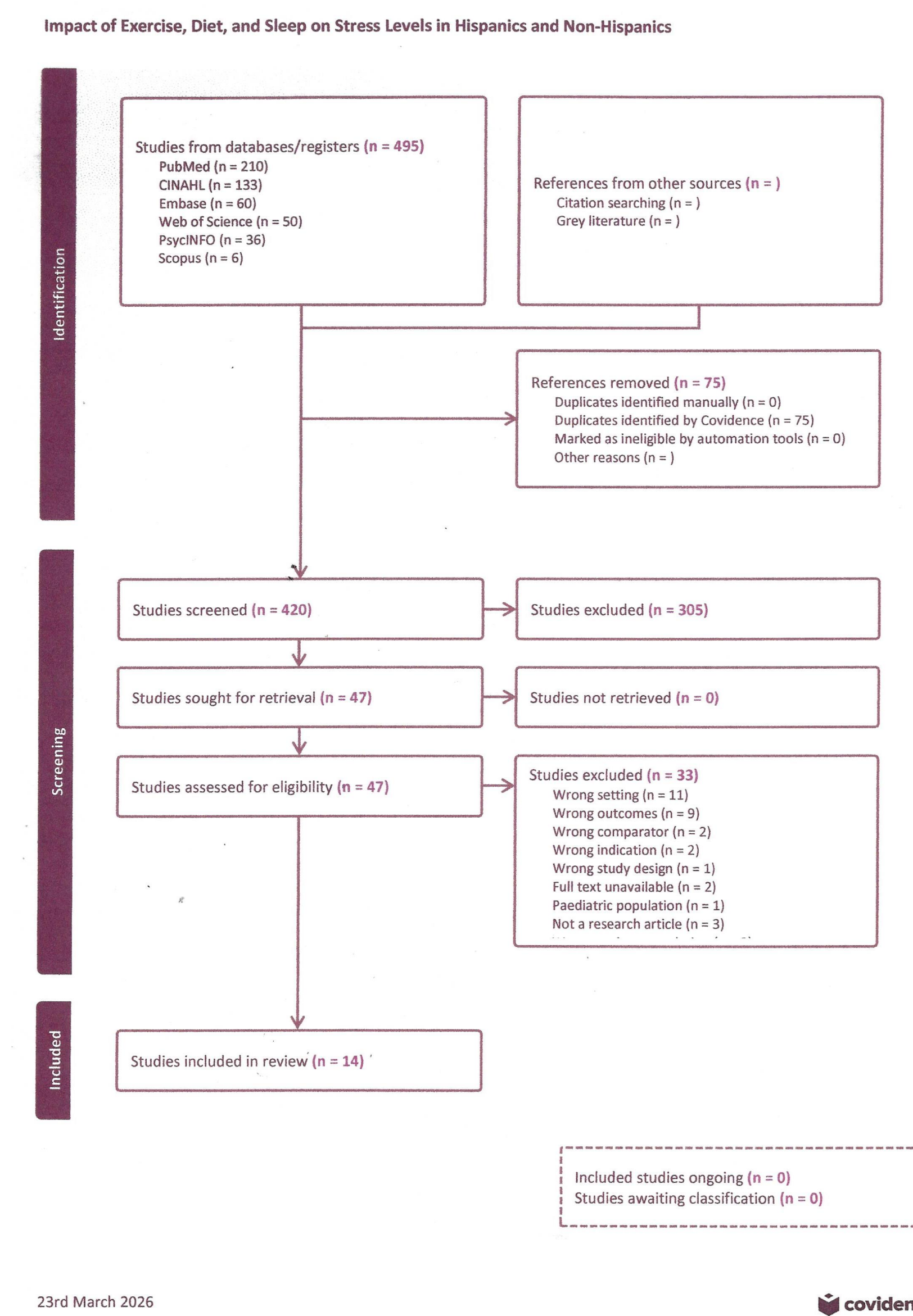
Inclusion Criteria

- Literature published in the last 10 years
- Articles published in English
- Studies conducted in U.S.
- Adult human populations
- Qualitative and Quantitative Studies
- Systematic or Scoping Reviews



Design

Data extraction using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)



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Synthesis of Evidence

Moderate Exercise Reduces Stress and Improve Sleep Quality

- Moderate exercise performed three times per week for eight weeks improved sleep quality (Korkutata et al., 2025)
- A tailored, self-help physical activity of 150 minutes of moderate exercise per week, monitored using a pedometer, reduced stress and cardiometabolic biomarkers in Latina women (Pekmezi et al., 2024).
- Exercise improved sleep quality and dietary habits (Adams et al., 2020).

Quality of Diet and Stress

- Reported chronic stressors and higher perceived stress were linked to higher caloric intake, while moderate perceived stress levels were associated with increased intake of saturated fats (Isasi et al., 2016).
- Perceived stress was associated with greater intake of sugar and saturated fat in adult Puerto Ricans (López-Cepero et al., 2021).

Sleep – Important Predictor of Mental Well-Being

- College students report sleeping only 6-7 hours, which contributes to decreased concentration, depressive symptoms, and reduced social functioning (Adams et al., 2020).
- Students with poor sleep, exercise, diet, and smoking habits exhibited the highest stress levels. Increased stress worsen sleep quality, while poor sleep further exacerbates stress, creating a cyclic relationship (Badger et al., 2019).

Limitations

- Articles reviewed limited within the past 10 years
- Databases limited to the U.S
- Number of variables
- Stress measured in varying ways
- Exclusive prioritization of perceived stress
- Bidirectional effects of stress
- Limited availability of articles addressing diet and exercise

Conclusion

- Exercise reduces stress and improves sleep quality.
- Perceived stress is associated with increased consumption of unhealthy foods and decreased intake of nutrient-dense foods in Puerto Rican population.
- Adequate sleep supports melatonin production, improves mood and mental health, and reduces stress and anxiety.

Implications

- More research needed, especially inclusive of U.S. Hispanic populations.
- Develop culturally tailored interventions to improve awareness and adherence to advised guidelines for exercise, healthy diet, and sleep.
- Training culturally responsive researchers and healthcare providers.

References – QR Code

