

crisprd 1.0



## Abstract

**Grant Number:** 5K01NR000145-02

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**PI Title:**

**Project Title:** PSYCHONEUROIMMUNOLOGICAL CORRELATES OF SLEEP IN HIV

**Abstract:** *Insomnia, a disruption of sleep quality, is a frequent symptom of HIV disease that is characterized by numerous changes in nervous, endocrine, and immune functions. Initiation and maintenance of sleep depends on complex interactions of these three systems. Frequently, insomnia appears before the diagnosis of HIV infection and persists throughout the course of the disease. The few studies that have looked at sleep disturbances in relation to a rising viral load or a declining CD4+ count have not taken into account the relationship among sleep quality and three markers of immune activation (HIV viral load, beta-2-macroglobulin, and Epstein-Barr virus). Therefore, the specific aim of this feasibility study is to describe the relationships among stress, immune activation, psychological, endocrine, and immune correlates of sleep, and sleep quality in Persons with HIV (PWHIV) within the context of psychoneuroimmunology (PNI) theory. A cross-sectional, correlational design will be employed in which HIV- positive men (n=100), ages 18-40, who experience insomnia will be asked to participate. The subjects will complete a battery of instruments that include the: Perceived Stress Scale, and Profile of Mood States. Blood and urine samples will be collected for two immune activation markers (beta-2- microglobulin and Epstein-Barr Virus-Viral Capsid Antigen), endocrine correlates of sleep (ACTH, cortisol, epinephrine, and norepinephrine), and immune correlates of sleep (natural killer cell activity, IL-1, IL-6, and TNFalpha). Sleep quality, will be measured with the Wrist Actigraph as well as polysomnography for a selected group. The long-term goal of this research career award is to develop expertise in sleep and psychoimmunology research in order to develop and test behavioral, cognitive, and complementary therapy interventions to improve sleep quality and immunity in PWHIV*

*and other chronic illnesses. Dr. David Dinges, an expert in sleep research, and Dr. Michael Antoni, an expert in PNI and AIDS, will provide the mentorship needed to build a research program in sleep and PNI in PWHIV.*

***Thesaurus Terms:***

*HIV infection, psychoneuroimmunology, sleep disorder  
hormone metabolism, leukocyte activation /transformation, stress  
clinical research, human subject, polysomnography*

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