

# Examining Insomnia, Pain Severity, and Coping Strategies in Ethnic/Racial Groups with/at risk for Knee Osteoarthritis.

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**Background:** Knee osteoarthritis (OA) is a degenerative, debilitating condition affecting functional mobility, pain, and quality of life. Factors contributing to health outcomes in knee OA populations include poor sleep quality and pain coping strategies. Cross-sectional studies have demonstrated significant associations among poor sleep quality and higher OA-related pain severity and fatigue; however, the extent to which associations among knee pain, sleep, and coping differ across ethnic/race groups remains unclear. The overall aim of this study was to examine associations among knee pain severity, insomnia severity, and pain coping strategies in non-Hispanic Black and non-Hispanic White adults with/at risk for knee OA. We hypothesized that (1) (NHB) participants would report greater insomnia, pain severity, and catastrophizing compared to NHW participants, and (2) the magnitude of correlations among pain, insomnia and pain coping would be different between ethnic/race groups.

**Methods:** We conducted a cross-sectional study of adults with/at risk for knee OA using community and clinic-based recruitment from two study sites both in the Southeastern United States. All participants (N = 188) provided sociodemographic data prior to completing the following validated measures: WOMAC, Insomnia Severity Index, Coping Strategies Questionnaire, and PROMIS-Anxiety and Depression.

**Results:** Mean age was 58 years; 37% were men and 63% women; 52% were NHB and 48% NWH. In an adjusted model controlling for anxiety, depression, and sleep medication use, results revealed that NHB reported significantly greater insomnia ( $p = .015$ ), pain severity ( $p < .001$ ), and catastrophizing ( $p = .03$ ) than NHW. For both ethnic/race groups, greater insomnia severity was significantly associated with greater pain severity ( $p < .001$ ) and catastrophizing ( $p < .001$ ) but was not significantly associated with any adaptive coping strategies. The association between insomnia severity and catastrophizing was significantly stronger for NHW compared to NHB ( $p = .03$ ).

**Discussion:** Previous literature has suggested that up to 81% of knee OA patients experience symptoms of problematic sleep, including insomnia. Results of this study suggest that NHB adults with/at risk for knee OA may be particularly vulnerable to experiencing greater insomnia and pain severity. Evidence-based behavioral pain management interventions that also address sleep may be beneficial for NHB adults with knee pain associated with OA.