



Exploring Bilateral Carpal Tunnel Syndrome in Underserved Communities: A Focus on AANHPI Populations and Risk Factors

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Objective: Carpal tunnel syndrome (CTS) is a nerve condition caused by compression of the median nerve in the wrist.

Background: This study addresses the limited research on CTS in Asian American, Native Hawaiian, and Pacific Islander (AANHPI) populations and compares their clinical presentation, comorbidities, and treatment with other racial groups in Hawaii.

Design/Methods: This retrospective cohort study analyzed data from a neurological center in Hawaii. Adults (≥ 18 years) diagnosed with CTS between 2019–2023 were identified using ICD-10 codes. Patients without confirmed diagnosis via electromyography (EMG), clinical symptoms, or complete demographic data were excluded. Statistical analysis was performed using R, with significance set at $p < 0.05$.

Results: Data from 404 patients were analyzed: 35% were Native Hawaiian/Pacific Islanders (NHPI) and 33% were Asian. AANHPI patients had the highest rates of public insurance ($p < 0.001$). NHPI patients had the highest obesity rates ($p < 0.001$), while Asians had the lowest ($p < 0.001$). Both Native Hawaiians and Asians had higher rates of hypertension ($p = 0.022$, $p = 0.002$), hyperlipidemia ($p = 0.042$, $p = 0.020$), and diabetes ($p = 0.008$, $p = 0.021$) compared to Whites. Native Hawaiians were also more likely to be smokers ($p = 0.003$).

Conclusions: AANHPI patients with CTS are more likely to rely on public insurance and present with comorbidities like hypertension, hyperlipidemia, and diabetes. NHPI patients, representing 18% of the county's population, made up 35% of the CTS cases, with high rates of obesity and smoking. In contrast, Asians—who form 49% of the population—accounted for only 33% of CTS cases, were diagnosed later, and had the lowest obesity rates. These findings highlight the need to address comorbidities and reduce treatment disparities among AANHPI patients with CTS.