



2021

Summer Research
Internship
Program

ABSTRACTS



HONOLULU, HAWAII

Sociodemographic Factors and the Management of Trigeminal Neuralgia: A Retrospective Case-Control Study

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INTRODUCTION

Trigeminal neuralgia is a neuropathic pain disorder that may be described as “shock-like.” Treatment may include medications, of which anticonvulsants are first-line therapies. Procedural interventions may also be offered.

OBJECTIVE

To assess the relationships between sociodemographic variables, medical comorbidities, and treatment outcomes among patients with trigeminal neuralgia.

METHODS

A retrospective case-control study was conducted at a neuroscience institute based in Honolulu, Hawaii. ICD-9 and ICD-10 codes were used to identify patients from clinic inception to June 2021 with possible trigeminal neuralgia. Manual review determined that there were 119 patients with a formal diagnosis of trigeminal neuralgia and who have had at least one follow-up. Additionally, 476 unmatched controls and 119 controls matched to sex, age, and self-identified race were collected. Sociodemographic variables, medical comorbidities, pain characteristics, and treatments were obtained from patient charts. Categorical variables were assessed using Pearson's chi-squared test or Fisher's Exact Test and continuous variables by Wilcoxon Rank Sum Test. Alpha = 0.05 determined statistical significance.

RESULTS

There were significantly higher odds of pain staying the same in Hispanics (17.12; $p = 0.0075$), and significantly lower odds of pain staying the same in Asians (0.22; $p = 0.047$). Significance was also observed as White patients were at reduced odds (0.16; $p = 0.018$) and Asian patients were at increased odds (6.81; $p = 0.0020$) of having classical trigeminal neuralgia. Patients with trigeminal neuralgia had significantly greater odds, 1.96 ($p = 0.0034$), of being female. However, the distribution of races among identified cases did not significantly differ from this clinic's general patient population.

CONCLUSIONS

Hawaii's patient population allows for the assessment of trigeminal neuralgia outcomes among racial groups that are traditionally underrepresented in medical literature. Our results suggest that patients with trigeminal neuralgia in these minority populations may have different clinical outcomes.

Sociodemographic and Risk Factors Associated with Traumatic Brain Injury Between Racial Groups in Hawai'i

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INTRODUCTION

Traumatic Brain Injury (TBI) is a significant public health concern. We aim to study the intersection of race, sex, and socioeconomic status in TBI in Hawai'i.

METHODS

Retrospective chart review was conducted on TBI patients seen at Hawaii Pacific Neuroscience from 1/1/19 to 6/23/21. Patients were excluded for insufficient information in the electronic health record. Variables collected include demographic information, characteristics of the injury, and other patient factors (social history, BMI).

RESULTS

Of the 412 patients included, 56% were male and 44% were female. 32% of patients were white, 23.3% were Native Hawaiian or Other Pacific Islander (NHPI), 20.9% were Asian, 3.6% were Hispanic, 2.9% were other underrepresented minorities (OUM) (Black and Native American/Alaskan Native), and 17.2% did not report their race.

Caucasian patients with TBI were more likely to have diagnostic imaging (OR=1.99 95% CI 1.23-3.23; p=0.0042). Asian patients were more likely to be employed (OR=2.17 95% CI 1.26-3.77; p=0.004) and more likely to have private insurance (OR=2.32 95% CI 1.36-4.02; p=0.0015). NHPI were less likely to have private insurance (OR=0.53 95% CI 0.32-0.88; p=0.014) and more likely to exhibit Class III obesity (OR=4.22 95% CI 1.18-16.89; p=0.019). Hispanics were more likely to report sleep disturbances at the most recent visit (OR=18.23 95% CI 1.76-909.14; p=0.0049). OUM were more likely to report depression at the most recent visit (OR=6.615 (95% CI 1.18-16.89; p=0.0022) compared to other races.

CONCLUSION

We identified several factors associated with TBI patients of different racial groups in Hawai'i.

Characteristics of Central Sleep Apnea in Hawai'i Ethnic Groups

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INTRODUCTION

Central Sleep Apnea (CSA) is a sleeping disorder in which the brain sends improper signals to muscles responsible for breathing. As CSA is an uncommon, complex sleep disorder, a better understanding of various sociodemographic and biological risk factors for CSA is of significance, especially in underrepresented, at-risk populations.

OBJECTIVE

This study investigates the demographics and comorbidities of CSA in Hawaii to determine associations of CSA with sociodemographic, cardiovascular, and neurological comorbidities amongst HPN patients.

METHODS

A retrospective chart review was performed on 35 patients with CSA. Sociodemographic and comorbidity data were collected from the HPN eClinicalWorks database. Matched and unmatched controls were collected in a 4:1 ratio.

RESULTS

Patients with CSA are more likely to have private insurance than patients without (95% CI: 1.10 to 5.62, OR = 2.46, $p = 0.02515$). Patients with CSA were found to have greater BMIs than patients without (95% CI: 1.57 to 6.30, $W = 3297.5$, $p = 0.00158$), with a mean difference of 3.98. Significant factors included atrial fibrillation (95% CI: 1.05 to 11.96, OR = 3.60, $p = 0.030$), history of neurological disorders (95% CI: 1.14 9.55, OR = 3.66, $p = 0.012$), hypercholesterolemia (95% CI: 1.05 to 11.96, OR = 3.60, $p = 0.030$), and insomnia (95% CI: 1.36 to 10.82, OR = 3.87, $p = 0.0090$).

CONCLUSION

These findings show that patients with CSA are more likely to also have complications such as increased BMI, atrial fibrillation, hypercholesterolemia, history of neurological disorders, and insomnia. They are also more likely to have private insurance, suggesting a role of socioeconomic status on the likelihood of individuals to seek treatment. A relatively small sample size was collected; a larger, prospective study that incorporates ethnically diverse patients could be a compelling area of future study.

Employability, Work Difficulties and Factors Impacting Chronic Migraine Patients of Hawaii: Results of a Quality Improvement Survey

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INTRODUCTION

Chronic intractable migraines have a significant impact on patients' daily lives. There are a variety of tools that measure the impact migraines have on daily functioning. However, triggers and work-related difficulties are often inadequately addressed; HEADWORK is a questionnaire which captures a variety of difficulties and factors that may impact patients with migraine at work.

OBJECTIVE

Evaluate the relationship between work difficulties and other key factors that may negatively impact employability and quality of life for patients with intractable vs. non-intractable chronic migraine.

METHODS

A retrospective medical chart review of patients seen at Hawaii Pacific Neuroscience for migraines between April 2021 and June 2021 was conducted. Variables collected included patient demographics, past medical history, employment status, and medication trials for abortive and preventative treatments. Phone calls were made to survey patients using the HIT-6 and HEADWORK questionnaire. 80 (44%) patients of those who responded to the survey were noted to be employed; their employment was then categorized into Standard Occupational Classification (SOC) system.

RESULTS

Of the 654 patients who were recruited for phone calls, 182 (28%) patients agreed to complete the survey and their data were collected for analysis. 81.9% were female and 18.1% were male. 64.8% of patients were diagnosed with intractable migraines and 35.2% were diagnosed with non-intractable migraines. It was found that patients with intractable migraines had an odds ratio of 0.51 for being employed ($p=0.05$). Additionally, patients with intractable migraines were 3.7 times more likely to encounter difficulties dealing with work problems than patients with non-intractable migraines (95% CI: 1.1818, 12.2699; $p=0.02$).

CONCLUSIONS

The findings suggest that patients with intractable migraines are half as likely to be employed compared to patients with non-intractable migraines. Additionally, our findings support the current literature that females are more likely to be diagnosed with migraines than males. Further analysis will be conducted to determine how debilitating migraines can be in the workplace.

Ethnoracial differences in the experience and reporting of pain in lumbar radiculopathy patients in Hawaii

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INTRODUCTION

Lumbar radiculopathy (LR) is challenging to diagnose due to various causes of low back pain and the prevalence of its diverse symptoms. Race and ethnicity may be possible risk factors for LR, as previous studies reported disparities in how different ethnoracial groups process, cope, and treat chronic pain associated with LR. However, these studies have inconsistent findings, and some groups are significantly underrepresented.

OBJECTIVE

Investigate differences in how various ethnoracial groups in the Hawai'i population report and experience lumbar radicular pain and identify potential risk factors for LR seen at Hawaii Pacific Neuroscience (HPN).

METHODS

A single-centered, retrospective medical chart review was conducted using the EClinicalWorks data of patients treated at HPN from 2009-2021. Patients were identified using the ICD-10 code for lumbar radiculopathy M54.16. Patients with limited data and the absence of the M54.16 as a primary diagnosis were excluded from the study. Variables collected include age, gender, biological and psychiatric comorbidities, MRI/EMG findings, self-reported pain scale (0-10), and socioeconomic status (0-1). Further statistical analysis was conducted using RStudio software using Mann-Whitney U/Wilcoxon Sum of ranks, Chi-squared, Fisher's, and Paired t-test tests.

RESULTS

Of the 539 patients with LR, 20.0% (108) met inclusion criteria.

Treatment	Out of total (108)	White		Other		Asian		NHPI		Race not reported	
		Out of Total	Out of Race	Out of Total	Out of Race	Out of Total	Out of Race	Out of Total	Out of Race	Out of Total	Out of race
% Untreated	23.1%	28%	18.4%	12%	42.9%	32%	25%	20%	22%	8%	25%
% treated with only meds	11.1%	53%	18%	7.7%	14%	15%	6.3%	15%	8.7%	0%	0%
% only referred PT/exercise/ water aerobics	39.81 %	32%	36.8%	4.7%	29%	32%	44%	26%	48%	4.7%	25%

CONCLUSIONS

These findings suggest that various ethnoracial groups in the Hawai'i population experience and report LR differently. While 23.1% of the entire patient population were not treated their LR, Asians and NHPIs were more likely to not receive treatment untreated at a higher rate. Results also show that 11% of the patient population only received medication for their lumbar radicular pain, with whites being the most likely to only be prescribed medication. Similarly, Asians are more likely to be referred to physical therapy (32%). These findings are consistent with literature that shows the disparities of social determinants. Future work can be done to analyze the causes of these differences.

Identifying Knowledge and Hesitancy of Aduhelm (aducanumab) in Caregivers of Alzheimer's Patients within the Community of Hawai'i

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INTRODUCTION

Aduhelm (aducanumab) was approved by the FDA with the accelerated approval pathway on June 7, 2021 for its reduction of amyloid beta plaque in the brain, a surrogate endpoint of Alzheimer's disease (AD). However, clinical trial results have been met with heavy criticism, leading to controversy and mixed opinions amongst healthcare professionals. Aduhelm's recent coverage in the general public has given rise to both hope and concern surrounding attributes of the treatment from cost to method of administration.

OBJECTIVE

The objectives of this study were to identify key determinants of hesitancy and knowledge of Aduhelm in caregivers of patients with AD within the community of Hawai'i.

METHODS

A telephone survey was administered to 352 caregivers of patients with AD who were seen at Hawaii Pacific Neuroscience between January 1, 2019 and June 22, 2021. The 10 minute phone survey was conducted between July 17, 2021 and July 31, 2021 and consisted of several questions that inquired about patient care, hesitancy of Aduhelm, and demographic data.

RESULTS

86 (25.4%) survey responses out of 339 eligible caregivers were collected. 54 (62.8%) caregivers were unfamiliar with Aduhelm, while 32 (37.2%) caregivers were familiar with the drug. Familiarization with Aduhelm was found to be increased for caregivers who were spouses for their respective patient with AD ($p = 0.0023$), patients with higher MMSE scores ($p = 0.022$), patients using stress management ($p = 0.046$), and patients who were former smokers ($p = 0.013$). Of the 32 caregivers familiar with Aduhelm, only 5 (15.6%) believed it to be safe. 14 (43.8%) caregivers listed safety regarding side effects as the top concerning factor of Aduhelm. Only 9 (28.1%) caregivers were moderately ready or very ready for their respective patient with AD to receive Aduhelm.

CONCLUSION

This study suggests that caregivers of patients with AD in Hawai'i are concerned with Aduhelm's safety and most are not yet willing to try this drug with their loved ones.

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Acknowledgments

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