Lack of Native Hawaiian Neurologists and Disparities in Care for Native Hawaiians in Hawai’i

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ABSTRACT

Introduction: In Hawai’i, there are 367,000 Native Hawaiian and Pacific Islanders. Native Hawaiians experience health disparities in a variety of conditions, including stroke, diabetes, and cancer. Ethnic minorities are underrepresented among physicians; this lack of physician-patient racial concordance may contribute to the disparities, as recent studies suggest that racial discordance resulted in poorer healthcare quality. This study aims to assess the current status of neurological health disparities in the Native Hawaiian population in Hawai’i, with a focus on identifying neurologist ethnic representation, neurological diseases, and healthcare-related challenges disproportionately affecting Native Hawaiians.

Methods: An anonymous survey on physician’s attitudes and practice was emailed to all neurologists in the Hawai’i Neurological Society from February 2019 to June 2019.

Findings: Twenty-three full responses and one partial response was received. No participants self-identified as Native Hawaiian nor did they know of any Native Hawaiian neurologists in Hawai’i, yet all who completed the survey reported treating Native Hawaiians in their practice (n = 23), which identifies a gap in Native Hawaiian representation in the field of neurology in Hawai’i. In addition, majority of participants perceived that Native Hawaiians are disproportionately affected by neurological diseases and have difficulty accessing neurology services and obtaining quality care.

Conclusions: Future focus on creating opportunities to improve racially discordant physician-patient relationships and to increase Native Hawaiian representation in neurology may help narrow the gap in health disparities experienced by Native Hawaiians.

KEYWORDS: Native Hawaiian, Neurology, Racial Concordance, Health Disparities, Physician Shortage

INTRODUCTION

According to the United States Department Office of Minority Health, there are currently 1.5 million Native Hawaiian and Pacific Islanders living in the United States (US). In Hawai’i alone, there are 367,000 Native Hawaiian and Pacific Islanders. Native Hawaiians have the shortest life expectancy of any racial group and have significantly higher rates of many chronic, preventable diseases, such as diabetes, stroke, and heart disease. These disparities may have to do with a long history of mistrust of Westernization by Native Hawaiians. Within 100 years of Captain James Cook’s arrival to Hawai’i in 1778, 90% of the population passed away due to the introduction of new diseases. As missionaries arrived in the 1800s, Western ideas were forced upon Hawaiian language and culture. In 1883, Americans overthrew the Hawaiian monarch, Queen Lili’uokalani. To this day, some Native Hawaiians continue to oppose the recognition of the United States and argue that the overthrow violated international law. The cumulative effect of these historical traumas may be still influence Native Hawaiian interactions with Western healthcare today, and

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possibly play a role in Native Hawaiian healthcare disparities in Hawai‘i.7

One way to ameliorate these health disparities could be to increase physician-patient racial concordance, defined as when a physician and patient are of the same race.2-4 Studies have found that a physician’s perception of a patient’s race impacts the quality of care given.8 Among some minorities, it has been shown that having physician-patient racial concordance can improve patient satisfaction, increase utilization of physician services, and possibly improve health outcomes.2-4 However, as with other minorities, Native Hawaiians are often underrepresented among physicians. Although Native Hawaiians make up 18 to 22% of Hawai‘i’s population, only 4% of licensed physicians in Hawai‘i are of Native Hawaiian ancestry.9 Furthermore, a majority of these Native Hawaiian physicians tend to specialize in primary care, leaving other areas of specialization, such as neurology, particularly underrepresented.10

The prevalence of Native Hawaiian neurologists and attitudes toward Native Hawaiians by neurologists in the state of Hawai‘i has not been reported to our knowledge. This study aims to assess the current status of neurological health disparities in the Native Hawaiian community living in Hawai‘i, with a focus on identifying neurologist racial representation, neurological diseases, and health care-related challenges disproportionately affecting Native Hawaiians.

METHODS

Recruitment and Consent
An anonymous online survey was emailed to all 44 practicing neurologists in the Hawai‘i Neurological Society (HNS), a professional organization for neurologists in the state of Hawai‘i, at the time of data collection. A formal request for the email list and announcement of the study was made in-person by the authors at an HNS meeting, which was approved by the HNS board of directors. In addition, approval was granted by the University of Hawai‘i Institutional review board (2018-00855) committee prior to conducting the survey.

A waiver of informed consent was obtained from all participants prior to conducting the online survey and was sent as an attachment in the email invitation. There was no payment or other form of incentive for participation. From February 2019 to June 2019, emails with a link to the survey were sent. Participation was voluntary.

No funding was provided for this research. All authors have full access to all of the data.

Measures
The Queen’s Medical Center physician satisfaction survey measuring physician attitudes was adapted into a 26-question survey with permission from The Queen’s Medical Center. The survey contained questions pertaining to physician background and training, perceptions of practicing in Hawai‘i, and perception of disparities in access to and quality of neurology care for Native Hawaiians patients in Hawai‘i. Demographic information was not asked in the survey with the concern of over identifying information from a small sample size by HNS board members. The anonymous online survey was hosted on REDCap, a Health Insurance Portability and Accountability Act compliant survey database.

Data Analysis
Microsoft Excel 2011 version 14.0.0 (Microsoft Corporation: Redmond, WA) was used to report descriptive statistics. Inferential statistics were not utilized due to the small number of participants.

RESULTS

The survey received responses from 24 neurologists. Twenty-three completed the entire survey (52%) and 1 participant only partially completed the survey (2%). Participants reported an average of 14 years practicing in Hawai‘i, ranging between 1.2 to 32 years (n = 24). Among participants (n = 24) only 25% (n = 6) were born and raised in Hawai‘i and/or completed any part of their medical education in Hawai‘i.

When asked about their ancestry and care of Native Hawaiian patients in their practice (n = 23), none of the participants who responded to the question were of Native Hawaiian descent or knew of any Native Hawaiian neurologists, but they all reported caring for Native Hawaiian patients. When asked if they perceived that, among the patients they treat, Native Hawaiians were disproportionately affected by certain diseases, a majority of participants agreed with the statement (61%, n = 14), specifying stroke and hemorrhage (57%, n = 13) (Figure 1).

Seventy-four percent of respondents (n = 17) perceived that Native Hawaiians have greater difficulty accessing or are less likely to seek out neurology services. The respondents also qualitatively reported lower health literacy and compliance among their Native Hawaiian patients.
One respondent noted that patients of Native Hawaiian descent have “[an] understanding of psychiatric disorders, however, the overall understanding of neurological disorders in this community [is] poor. I spend a lot of time educating.” In addition, 39% (n = 9) of respondents indicated that they perceived special consideration is necessary when treating Native Hawaiian patients with three participants attributing this to access to care and cultural concerns, and two participants attributing this to health literacy.

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Respondents were also asked about various ways the John A. Burns School of Medicine (JABSOM) could alleviate Hawai‘i’s neurologist shortage (n = 23, 96%). Seventy-four percent (n = 17) recommended “neurology rotation for 3rd year medical students,” 74% (n = 17) suggested “neurology residency program,” 61% (n = 14) suggested “more opportunities to interact with practicing neurologists,” 30% (n = 7) indicated “scholarship for medical students committed to neurology,” and 17% (n = 4) recommended “more research opportunities in neurology.”

**DISCUSSION**

It is a striking finding that none of the neurologists surveyed identified as Native Hawaiian or knew of any current Native Hawaiian neurologists, as there may be important implications for the Native Hawaiian population suffering disproportionately from stroke and other neurological disorders. Namely, the fact that this survey found no Native Hawaiian neurologists in Hawai‘i implies racial discordance of the physician-patient relationship. A study demonstrated racial concordance may be beneficial to Native Hawaiians, who are be hesitant to utilize Western medicine, and having a race concordant physician may encourage those of Native Hawaiian ancestry to better utilize physician services. Racial concordance has been recognized in the literature to correlate with better patient satisfaction, improved health outcomes, and better utilization of physician services. For example, African Americans who have a physician of the same race are more likely to express satisfaction and more likely to rate their physician as excellent. Similar to African Americans, the benefits of race
concordant care may be especially relevant in Hawai‘i where many unique cultural practices associated with health and illness have been passed down generationally. Therefore, it may be inferred that an increase in recruitment of Native Hawaiians into the field of medicine would help with greater race concordant relationships among Native Hawaiians and their physicians. In addition, prior research finds that physicians identifying as minorities were more likely to practice in underserved areas and treat a more diverse patient population, including patients in underrepresented and underserved ethnic groups, lower income and Medicaid patients, and patients with worse overall health statuses. Thus, not only would recruiting more Native Hawaiians to medicine be beneficial for the Native Hawaiian populations in Hawai‘i, but also to the greater underserved community. With more Native Hawaiians in medicine, it raises the likelihood of Native Hawaiians pursuing neurology. By having a Native Hawaiian neurologist in Hawai‘i, it can improve the racial concordance between Native Hawaiians and neurologists, leading to better outcomes in their neurological disease.

JABSOM has taken several steps over the years to aid and encourage Native Hawaiian students to pursue a career in medicine with notable success. As of 2010, 118 actively practicing Native Hawaiian physicians were identified in Hawai‘i, 96 of which were JABSOM graduates. Despite this promising trend, these efforts have not led to any currently practicing Native Hawaiian neurologist in Hawai‘i. The issue of low rates of medical students choosing to specialize in neurology is not unique to Hawai‘i, or even the US at large. This issue can be attributed to a perceived lack of effective treatment options, poor work-life balance, and/or lack of medical student engagement in neurology courses. At the Boston University School of Medicine, faculty addressed these aforementioned issues through the creation of the Comprehensive Opportunities for Research and Teaching Experience (CORTEX) program, which offers students longitudinal contact with a neurology mentor as well as research and teaching opportunities throughout medical school. A similar program implemented at JABSOM could benefit from culturally tailored longitudinal mentorship and integration of students into the local neurology community, in ways that integrate Native Hawaiian and Western values. For example, students could have the opportunity to work with neurologists who focus on Native Hawaiian research or work with neurologists who work with predominantly Native Hawaiian populations. Not only might this ameliorate some of the potential negative perceptions that many medical students may have of this field, but a program, like CORTEX, may also demonstrate to Native Hawaiian students their potential impact by directly exposing them to the neurological disparities faced by their own community.

Fostering interest in neurology, especially among Native Hawaiian medical students, could also be encouraged through the implementation of mandatory neurology clerkships. A majority of the respondents recommended that JABSOM could help improve the neurologist shortage through a mandatory third-year neurology clerkship, creation of neurology residency, and/or facilitating greater interaction between neurologists and students. JABSOM is currently one of the few medical schools without a mandatory neurology clerkship and Hawai‘i does not have a neurology residency. According to the AAMC (2018 - 2019), 83% of medical schools (n = 147) had a mandatory neurology clerkship. As an initial first step, JABSOM started to offer an optional third-year neurology elective and fourth-year neurology intensive care unit elective in the 2020 to 2021 academic year and also instituted a mandatory two half days of neurology clinic for their third-year students. However, these changes may not be adequate in exposing students to neurology compared to other specialties who receive 4-weeks or more of exposure. By exposing more students to neurology, the school can facilitate greater exposure of the field to their Native Hawaiian students and students in general.

Even though the promotion of Native Hawaiian medical student enrollment and Native Hawaiian healthcare interest in neurology may eventually decrease Native Hawaiian disparities in neurology, establishing cultural competency programs that are available to the state’s current pool of neurologists may improve their cultural sensitivity and subsequently their relationships with Native Hawaiian patients. The majority of physicians in the current study were not from Hawai‘i and/or did not complete any of their training in the state. Respondents in this study also described challenges in communicating health information to their Native Hawaiian patients and spent a significant amount of time educating these patients about their neurological conditions. Multiple studies on cultural competency training have found that it has a beneficial effect not only on the attitudes, knowledge, and skills of physicians, but also on patient satisfaction. Native Hawaiians themselves have expressed that medical students and other health professionals require cultural competency training. As Hawai‘i’s only allopathic medical school, JABSOM has been
actively working to integrate Native Hawaiian cultural competency into their curriculum. In 2003, the Department of Native Hawaiian Health at JABSOM was established and is the only medical school in the United States with a department solely dedicated to indigenous health. Since then, JABSOM students have been exposed to Native Hawaiian culture through cultural immersion opportunities; lessons on cultural historical trauma, indigenous healing, and communicating with Native Hawaiian patients; and traditional healing practice. It may be of benefit to extend opportunities similar to the ones offered through JABSOM to currently practicing physicians, possibly in the form of a series of seminars on Hawaiian culture as it relates to healthcare.

CONCLUSIONS

The current study is the first, to our knowledge, to identify the lack of Native Hawaiian ancestry amongst currently practicing neurologists in Hawaiʻi and to discuss neurologists’ attitudes and beliefs toward Native Hawaiian patients. The lack of racial concordance between neurologists and the Native Hawaiian patient population is concerning. Potential avenues to mitigate these effects include increasing cultural competency among currently practicing physicians, recruitment of Native Hawaiians into the field of neurology, increasing the mandatory third year neurology requirement at JABSOM, and creating a state neurology residency program.

A limitation of this research is the small sample size. However, a strength of this research is that it is the first to investigate Native Hawaiian prevalence and attitudes toward Native Hawaiians among a medical specialty. Further research may examine whether there are Native Hawaiian neurologists working elsewhere in the US, and factors that led them to practice neurology in their current location. Future studies may also investigate the number of Native Hawaiian physicians in other fields of medicine to identify potential lack of representation in other specialty areas or investigate reasons to what drew them to that specialty. Additionally, incorporation of Native Hawaiian focus groups would likely provide insight into specific Native Hawaiian healthcare needs and better learning of how physicians of non-Hawaiian backgrounds can be better prepared to address unique racial and cultural issues. Future directions as a result of this research include the formation of focus groups with Native Hawaiian medical students and physicians to identify the factors that contribute to their decision-making processes in choosing specialties. This information may yield greater insight into factors affecting Native Hawaiian representation in neurology.

Contributions:

Maiya Smith: contributed to study design and assisted with drafting and editing. All authors contributed in various forms including manuscript editing and approval.

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Availability of data and material: The data supporting the findings of this study is available on request from the corresponding author. The data is not publicly available due to privacy concerns among our small sample size of participants.

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