## Raising the Health Status of Native Hawaiians

Health promotion continues to be among the most important topics in our society today. In the United States, more than half of adults are either overweight (34%) or obese (31.1.%)<sup>1</sup> and about half of adults have one or more preventable chronic diseases<sup>2</sup>. Many of these chronic diseases are related to unhealthy diets and physical inactivity.<sup>2</sup> Such chronic diseases consist of overweight and obesity, heart disease, type 2 diabetes, and some cancers.<sup>3</sup> Many are not aware of the specific consequences of their diet and exercise patterns and they develop and perpetuate harmful habits. Healthy People 2020 has made it a goal to promote a healthy diet and body weight among the population in order to reduce the risk of chronic disease.<sup>3</sup> Certain racial groups, such as Native Hawaiians, are more affected than others which leads to disproportionate numbers of chronic diseases and mortality rates.<sup>4</sup> In order to raise the health status of Native Hawaiians, there needs to be an emphasis on the importance of one's diet as it relates to their racial group, an effort to equip them with the knowledge required to make healthier choices, and the implementation of culturally-sensitive approaches.

There is an importance to educating Native Hawaiians about their health disparities. Oftentimes this racial group is overlooked because of their small percentage in the entire US population. According to a 2010 Census Brief, Native Hawaiians and other Pacific Islanders (NHPI) make up 0.2% of the total US population.<sup>5</sup> Though this statistic does seem small, the NHPI population was found to be one of the fastest growing race groups between 2000-2010.<sup>5</sup> Of all the NHPI groups, Native Hawaiians are the largest at more than half a million people.<sup>5</sup> Therefore, the Native Hawaiian population is increasing which makes addressing their health disparities even more crucial.

The rates of NHPI who are in good health are quite low. All NHPI persons (61.4%), those of multiple NHPI races (63.7%), and single-race NHPI persons (59.3%) were significantly less likely to have excellent or very good health as compared with the total US population (67.3%).<sup>6</sup> Specifically, Native Hawaiians were found to be in excellent or very good health about 61.3% of the time which is also less than the total US population.<sup>6</sup> It is widely known that the Black population has significant health disparities. Interestingly, it was found that single-race NHPI (59.3%) and single-race Black persons (58.2%) were not significantly different in their prevalence of excellent or very good health.<sup>6</sup> While the total US population had a 28.9% rate of obesity, Black or African American persons had a 39.8% rate of obesity and single-race Native Hawaiians had a 43% rate of obesity.<sup>6</sup> In looking at body weight status of Native Hawaiians, more than half of the population is either overweight (30.8%) or obese (43%).<sup>6</sup> These statistics demonstrate just how serious the poor health status of Native Hawaiians is.

When looking at the rates of obesity in Hawaii compared to the national total, it appears that Hawaii is healthier than the nation as a whole. As of 2018, the national percentage of adults who have obesity is 30.9% whereas Hawaii's percentage is 24.9%.<sup>7</sup> This data is misleading, however, because breaking these statistics down by the different racial groups that populate Hawaii reveals a different picture. NHPI have the highest rate of obesity in Hawaii at 51.8% as of 2019 which is increased from 45.2% in 2018.<sup>8</sup> NHPI also have the lowest rate of individuals in Hawaii with a normal body mass index (BMI) at 20.2% in 2019.<sup>8</sup> It is also important to note that the rate of obesity in NHPI in Hawaii (45.2%) is higher than the rate of obesity in NHPI nationally (35.2%)

by 10%.<sup>7</sup> These data points highlight the truth that, even though Hawaii's population as a whole might be healthy, the health of Native Hawaiians as a subgroup is at a dangerous level.

Having highlighted the prevalence of poor health in Native Hawaiians, it is subsequently essential to address how exactly it affects that population. A healthy body weight status decreases the risk of developing chronic disease risk factors, such as hypertension and dyslipidemia, as well as chronic diseases such as type 2 diabetes, heart disease, and some cancers.<sup>3</sup> Recently, it has been found that obesity increases the risk of severe illness in people with COVID-19.<sup>9</sup> Furthermore, the prevalence of having two or more chronic conditions increases with obesity.<sup>4, 10</sup> The high rates of obesity in the Native Hawaiian population puts them at an increased risk for acquiring one or more of these chronic diseases. The prevalence of chronic diseases, such as heart disease, cancer, and diabetes, as well as those conditions, such as hypertension and obesity, that cause or exacerbate these life-threatening conditions has, in fact, been found to be significantly high among NHPI.<sup>10</sup>

Cardiovascular diseases include coronary heart disease (CHD), heart attacks, and stroke. A risk factor that is associated with cardiovascular disease is hypertension.<sup>4</sup> Nationally, Native Hawaiians have a 26% rate of hypertension which is slightly higher than the US total at 24.5%.<sup>6</sup> The rates of CHD do not differ much between the Native Hawaiian population (6.9%) and the total US population (5.5%)<sup>6</sup>, however, Native Hawaiians have a higher age-adjusted mortality rate for CHD than other major racial groups in Hawaii.<sup>4</sup> Native Hawaiians are only second to Filipinos for the highest rate of heart attacks in Hawaii at 4.8% and 5.2% respectively.<sup>11</sup> A large cohort study found that Native Hawaiians had higher mortality rates from heart attacks than all

other racial groups in Hawaii and California except for Blacks.<sup>10</sup> Native Hawaiians reportedly have the highest stroke rate<sup>11</sup> and, with the exception of Filipinos, the highest stroke mortality rate<sup>10</sup> among all racial groups in Hawaii. Cardiovascular disease accounted for about one in three deaths among NHPI and mortality rates are about twice as high as those of whites.<sup>10</sup> In Hawaii, Native Hawaiians die at younger average ages from cardiovascular diseases than other major racial groups.<sup>4, 10</sup> These statistics depict how disproportionately affected Native Hawaiians are in respect to cardiovascular disease.

The high prevalence of diabetes among Native Hawaiians has also been well established for several years.<sup>10</sup> Nationally, the percentage of Native Hawaiians who have diabetes is 17.8% which is higher than the total US population (8.5%) as well as the national percentages of Whites (8.5%) and Blacks (13.2%).<sup>6</sup> In Hawaii, approximately 119,000 people have diagnosed diabetes and an additional 39,000 more are estimated to have diabetes but not know about it.<sup>12</sup> A diagnosis of diabetes not only takes a toll on the health of an individual but it is expensive as well and costs about \$1.5 billion in Hawaii each year.<sup>12</sup> The rate of diabetes continues to rise among Polynesians (which includes Native Hawaiians), Micronesians, and Melanesians<sup>4</sup> and has been reported as being more prevalent amongst NHPIs who have adopted more Americanized lifestyles.<sup>4, 10</sup> Those with diabetes have been found to be at a greater risk of mortality from cardiovascular and renal disease, an increased risk of hepatocellular carcinoma, and suffer from a lower health-related quality of life.<sup>10</sup> With Native Hawaiians being the racial group with the highest rate of diabetes, their risk for suffering from these conditions is heightened. Therefore, this information needs to be disseminated to the population and change needs to be enacted in order to improve the health of this community.

The incidence of and deaths from various cancers are disproportionately high for the NHPI population, especially Samoans and Native Hawaiians.<sup>10</sup> Native Hawaiian men have higher lung cancer incidence rates as well as lung and all cancer mortality rates than Whites.<sup>10</sup> Native Hawaiian women have higher all cancer, lung, and breast cancer incidence and mortality rates than Whites.<sup>10</sup> Amongst the total US population, Native Hawaiians are only second to Samoans for the highest rates of breast cancer at 2.9% and 5.0% respectively.<sup>6</sup> It is imperative that Native Hawaiians recognize how they are disproportionately affected by these life-threatening chronic conditions so that they can make an informed decision to lead healthier lives and reduce their chronic disease risk.

The next important task is providing pertinent information to help guide the Native Hawaiian population to healthier living. Healthy People 2020 and the American Heart Association (AHA) have both stated that a healthy diet and a healthy body weight are two important aspects to leading healthy lives.<sup>3, 13</sup> There is no one solution nor is there a universal plan or diet regimen that can help everyone achieve these goals. The cause of this health crisis itself is multifactorial, therefore, its solution must also contain many different elements. The AHA believes that a poor state of health results from factors such as increased portion sizes; high-calorie-density foods; easy access to plentiful, inexpensive food; sedentary lifestyle; and cultural influences.<sup>13</sup> To counteract this issue, the AHA along with the US Department of Health and Human Services and US Department of Agriculture recommend changes in the levels of intake of certain foods.<sup>2, 13</sup> In the United States, intake of fruits, vegetables, whole grains, and seafood are below recommended levels and intake of meats, sodium, saturated fat, and added sugars are above recommended

levels.<sup>2</sup> Native Hawaiians in particular have been shown to have low consumption rates of fruits and vegetables.<sup>11</sup> The AHA recommends a dietary pattern that is high in fruits, vegetables, and whole grains; includes low-fat dairy products, fish, and legumes; and has low amounts of sweets, red meats, and processed foods.<sup>14</sup> There are several well-studied dietary patterns that successfully meet these stipulations, the most popular being the Dietary Approaches to Stop Hypertension (DASH) diet and the Mediterranean-style diet. Each dietary pattern has slightly different adaptations that may aid one group of people more than another. For example, the DASH diet was of particular benefit in Blacks and individuals with hypertension.<sup>14</sup> Each dietary regimen is based on the AHA's recommended dietary pattern and, therefore, has proven effectiveness towards overall health.<sup>14</sup> This allows individuals the freedom to choose a dietary regimen that will best suit them. A multiethnic population study that included Native Hawaiians found that any diet that is high in quality and nutrient-dense foods regardless of cultural variations is associated with a lower risk of mortality from all causes, cardiovascular disease, and cancer.<sup>14</sup> With this evidence, the recommended dietary pattern can be adapted to satisfy personal and cultural preferences amongst Native Hawaiians. The ability to individualize dietary patterns will increase their compliance in maintaining a healthy diet which will lead to a decrease in their chronic disease and mortality rates.<sup>15</sup>

Sustaining a healthy body weight is equally as important as consuming a healthy diet when leading a healthy lifestyle.<sup>3</sup> A randomized control trial found that daily small changes or large periodic changes in diet and physical activity were both effective in reducing weight gain.<sup>16</sup> The "small changes" method consisted of both a reduction in intake and an increase in physical activity of approximately 100 calories per day.<sup>16</sup> The "large changes" method worked towards an

initial 2.3-4.5 kg weight loss to buffer against any potential weight gain and gradually increase moderate-intensity physical activity.<sup>16</sup> Instilling either these small or large changes in the lives of Native Hawaiians can reduce rates of weight gain and will subsequently reduce rates of obesity and increase levels of individuals at healthy body weights.

Another strategy to living healthier is turning healthy eating into a habit.<sup>17</sup> Setting up the kitchen so that healthy food is in sight and readily available and unhealthy food is hidden or absent altogether will aid in making better food decisions.<sup>17</sup> Neglecting to eat out of a bag or container and eating, rather, from small dishes reduces chances of overeating.<sup>17</sup> Eating small and frequent snacks, avoiding the distraction of a screen, planning meals ahead of time, and finishing the healthy portions of each meal first also decrease the chance of overeating.<sup>17</sup> Lastly, the support of family and friends can add accountability and motivation for continuing to practice these healthy habits.<sup>17</sup> Community support is big in the Hawaiian culture and would, therefore, be effective at improving the health of Native Hawaiians.

The more individualized a strategy is the larger its potential to be beneficial and sustained for a prolonged period of time.<sup>15</sup> Adapting strategies for healthy living to cater to Native Hawaiians and address barriers unique to that population will have better outcomes among that group of people. Some of the barriers found to be prevalent among the Native Hawaiian community include a lack of sufficient time to travel to a place where they could participate in physical activity.<sup>18</sup> The cost of living in Hawaii often necessitates residents to maintain multiple jobs and does not allot much time for caring for other aspects of life such as diet and exercise.<sup>18</sup> The abundance of fast food restaurants that are available in Hawaii provide simple and affordable

options for those who are limited on time and are, therefore, frequented by the Native Hawaiian community.<sup>18</sup> Some families take to making and selling local favorite foods, that happen to be high in fat, in order to bring in more money for the family.<sup>19</sup> The Native Hawaiian culture emphasizes caring and supporting one another which burdens the community with an obligation to buy these delicious foods that are bad for their health with the intent of helping their fellow people.<sup>19</sup> An additional barrier that was recognized was a lack of motivation to make healthy food choices.<sup>18</sup> Approaching the person as a whole allows for a broader range of personal motives to be established in order to strengthen each individual's adherence to a healthy diet,<sup>20</sup> supporting the idea that individualized strategies can be of benefit for this community's health.

There were also strong intergenerational influences identified on current eating patterns that affect the health of the community.<sup>19</sup> People learn and perpetuate the traditional local recipes that their parents and grandparents cook for them and they are not always of the best nutritional value. Culturally, there is typically one designated chef in the household that cooks for everyone. This can serve as a barrier because that person must also be motivated and informed about healthy eating if people in that house are to be supported in eating good nutritional meals.<sup>19</sup> The diet and practices of the ancient Native Hawaiians were consistent with a healthy lifestyle but life in Hawaii is currently more Americanized and does not promote healthy living like it once did, as evidenced by the higher rates of diabetes among Native Hawaiians with more Americanized diets.<sup>4, 10, 18</sup> Native Hawaiians used to grow their own food and/or trade for food like fruits and vegetables.<sup>21</sup> This method of obtaining food was actually found to be cheaper than the foods used in current household diets because it promotes self-sufficiency rather than paying larger amounts for other people to produce the food.<sup>21</sup> The cost of food is an important

determinant in the choices made in one's diet.<sup>21</sup> Therefore, implementing the traditional ways of the Native Hawaiian culture could have much benefit medically and financially.

The barriers experienced by Native Hawaiians to healthy ways of living are mostly specific to their culture, therefore, culturally-specific solutions need to be applied. The importance of family is a vital construct of the Native Hawaiian culture and, therefore, it is crucial that they be considered as a factor when working to improve one's health.<sup>22</sup> It was found that, in Hawaii, there is a greater average household size as compared to national averages which supports the importance of educating the whole household on healthy living.<sup>19</sup> Being a part of an environment where the knowledge and practice of healthy diets and exercise is shared was identified as an incredibly supportive component to working towards and sustaining a healthy lifestyle.<sup>18, 20</sup> Immersing groups of adolescents from disadvantaged communities in active nutrition-themed learning was shown to successfully change their dietary patterns to be more nutritious and beneficial.<sup>23</sup> Also, minority groups with strong community support were found to have had the most success at maintaining weight loss.<sup>24</sup> Using the strong community aspect of the Native Hawaiian culture can help increase their success at adapting healthier lifestyles and leads the focus of raising their health status to a family and/or community-based approach.

A culturally-sensitive health education was also shown to be of great benefit in reducing weight gain and increasing adherence in the Native Hawaiian community specifically.<sup>18-20, 22, 24, 25</sup> Using the traditional Hawaiian diet as a basis and blending it with a modern Hawaiian diet has been proven to be effective in generating an interest in positive diet and lifestyle changes and improving the health of the Native Hawaiian population.<sup>20</sup> There have also been several

programs that took nationally formed health interventions and adapted them to be specific to the Native Hawaiian community.<sup>25</sup> Words, images, and food examples specific to the NHPI population and common to local Hawaiian culture were implemented into these interventions and were shown to significantly improve rates of obesity, hypertension, and diabetes.<sup>25</sup> These adapted interventions focused on family and friend support and use of community resources.<sup>22</sup> Free activities in the community, such as exercising on the beach; practicing hula at home or among nature; or participating in local community center activities, were highlighted as valuable supports to healthy living in Hawaii.<sup>18</sup> It proposes more affordable options for the community and also addresses the barrier of lack of time to exercise by utilizing resources that are near or at home. Use of farmers markets for fresh produce is also suggested to counteract the notorious expense of healthy living.<sup>26</sup> Farmers markets allow for affordable and naturally grown produce and was also commended for the opportunity it provides to speak with farmers and glean helpful information for using their produce.<sup>26</sup> Using these free community resources as well as affordable and healthier farmer's market produce will negate the barriers faced by Native Hawaiians and promote a healthier lifestyle.

In conclusion, the Native Hawaiian population is continuously increasing and as their numbers rise so do their rates of chronic disease and mortality. It is important they are made aware that poor health is an issue that is negatively affecting their people. Providing them with information on healthy dietary patterns that can be adapted to fit their personal and cultural preferences as well as promoting community support through local organizations that sponsor free and convenient resources for healthy living will help to raise the health status of Native Hawaiians. The implementation of culturally-sensitive information and approaches to healthier living have

been proven to be successful at reducing chronic disease rates in this population of people and should be strengthened and perpetuated in order to continue to have an impact.

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