Improving Diabetes Self-Management and Health Among the Native Hawaiian Population in Hawaii

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Background

Live Healthy...Work Well (LHWW) is a competitive cooperative agreement administered by the US Department of Health and Human Services, Centers for Medicare & Medicaid Services (CMS).

A goal of LHWW is to examine how access to life coaching, pharmacist counseling, and other services impacts the self-efficacy and health of persons with diabetes.

The project, conducted on Oahu, Hawaii, includes many Native Hawaiians. Historically, health interventions with this population have been unsuccessful because of cultural incompatibility. The purpose of this poster is to determine if the LHWW was culturally compatible for Native Hawaiians by examining treatment effects by race.

Research Questions

1. How does the diabetes health of working Native Hawaiian adults compare to other participants in the sample?
2. Does the impact of the treatment over six months vary between Native Hawaiians and other treatment participants?

Research Methods

Design: Longitudinal Randomized Controlled Trial
Data Collected: At Baseline and 6 Months

Key Variables: Diabetes Self-Efficacy (DES), Hemoglobin A1c, Body Mass Index (BMI)

Measures:
- Surveys Completed by Participants
- Biometrics Completed by Physician

Analysis: T-tests and Chi-Square to Compare Native Hawaiians to Other Participants in the Sample

Demographic Profile of Participants

<table>
<thead>
<tr>
<th>Mean Age</th>
<th>42.5 (Range 20 to 82)</th>
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</thead>
<tbody>
<tr>
<td>% Female</td>
<td>62.6</td>
</tr>
<tr>
<td>% College Graduate</td>
<td>50.6</td>
</tr>
<tr>
<td>% Uninsured</td>
<td>2.6</td>
</tr>
<tr>
<td>% Type 2 Diabetes</td>
<td>85.8</td>
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</tbody>
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Native Hawaiians in Poorer Health at Baseline

- Native Hawaiians had a higher hemoglobin A1c level than other participants (t = -2.78, p = .006; normal level <7%)
- Native Hawaiians had a higher BMI than other participants (t = -2.18, p = .03)
- Levels of diabetes self-efficacy did not differ between Native Hawaiian and other participants (t = .80, p = .42)

Native Hawaiians Other Participants

| 8.3% | 7.8% |

Hemoglobin A1c Levels Among Native Hawaiians and Other Participants

Body Mass Index Among Native Hawaiians and Other Participants

| 34.65 | 31.83 |

Native Hawaiians Other Participants

| 67.4% | 67.4% |

Percentage of Participants Who Improved Their Diabetes Self-Efficacy Over Six Months

Native Hawaiians 72.7%
Other Participants 64.4%

| 45.6% | 48.5% |

Mean Change in BMI Score Among Overweight and Obese Participants Over Six Months

NH Treatment Group Others in Treatment Group Treatment (Overall) Control

| -0.70 | -0.61 | -0.65 |

Native Hawaiians Other Participants

| 190 Participants | 128 Treatment | 62 Control |

Randomization Process

Stratified Permutated Block (k = 9) Based on Diabetes Type Unbalanced Random Assignment Ratio (T:C, 2:1 Ratio)

Summary and Next Steps:

- Native Hawaiians had a higher hemoglobin A1c and BMI than other populations in the study.
- Over six months, treatment members lowered their BMI and raised their diabetes self-efficacy over six months.
- Findings suggest the cultural compatibility of life coaching and diabetes support services for Native Hawaiian treatment participants who benefited to the same degree as other treatment participants.
- Further examination of longitudinal outcomes (at 12, 18 months) using statistical models (latent growth curve, mixed models) is needed.