Intervention IP-128: Children’s Healthy Living Program - CHL

This intervention was a community-wide program in Alaska, American Samoa, the Northern Mariana Islands, Guam, and Hawaii that aimed to help young children live healthier lives. Over two years, communities worked on 19 activities that promoted better sleep, less screen time, more physical activity, more fruits and vegetables, more water, and fewer sugary drinks, while also making changes to policies, child care settings, local environments, and health education. The study suggests that an integrated approach engaging the entire community can improve children's health.

Overview

Purpose of Intervention:

The intervention's purpose is to prevent overweight and obesity in young children (ages 2–8y) and improve related health outcomes in communities across the US-Affiliated Pacific region.

Intervention Type:

Research-Tested — *Interventions with strong methodological rigor that have demonstrated short-term or long-term positive effects on one or more targeted health outcomes to improve minority health and/or health disparities through quantitative measures; Studies have a control or comparison group and are published in a peer-review journal; No pilot, demonstration or feasibility studies.*

Intervention Details

Intervention was Primarily Driven, Led, or Managed by:

Both Community and Academic/Clinical Researchers

Citations:

- Novotny R, Davis J, Butel J, Boushey CJ, Fialkowski MK, Nigg CR, Braun KL, Leon Guerrero RT, Coleman P, Bersamin A, Areta AAR, Barber LR Jr, Belyeu-Camacho T, Greenberg J, Fleming T, Dela Cruz-Talbert E, Yamanaka A, Wilkens LR. Effect of the Children's Healthy Living Program on Young Child Overweight, Obesity, and Acanthosis Nigricans in the US-Affiliated Pacific Region: A Randomized Clinical Trial. JAMA network open. 2018 Oct 5;1(6):e183896.
  Relevance: Main Intervention
- Novotny R, Yamanaka AB, Butel J, Boushey CJ, Dela Cruz R, Aflague T, Coleman P, Shallcross L, Fleming T, Wilkens LR. Maintenance Outcomes of the Children's Healthy Living Program on Overweight, Obesity, and Acanthosis Nigricans Among Young Children in the US-Affiliated Pacific Region: A

Randomized Clinical Trial. JAMA network open. 2022 Jun 1;5(6):e2214802.
Relevance: Post-Intervention Outcomes

Adaptation of Another Research-based Intervention:

No

Contact Information

Primary Contact Affiliation:

University of Hawai‘i at Mānoa

Intervention URL:

https://www.chl-pacific.org/

Results

Intention

Improve minority health or the health of other populations with health disparities (e.g. rural populations, populations with low SES)

Intervention Primary Outcome:

The primary outcomes were body size measurements.

Intervention Secondary Outcome:

Secondary outcomes were acanthosis nigricans, sleep quality and duration, dietary intake, physical activity, and other questionnaire responses.

Key Findings:

The intervention communities showed significant improvement compared with control communities in overweight and obesity prevalence ($p=0.02$) and waist circumference ($p=0.02$). Acanthosis nigricans prevalence was reduced ($P<0.001$) in intervention communities.

Statistical Method Used:

Within-group changes over time and the between-group difference in changes were assessed using a Wald test, with degrees of freedom based on the number of communities. Subgroup models were run by age and sex to test effect differences via Wald tests of interaction terms. Two-sided $P<0.05$ was considered statistically significant.

Evaluations and Assessments

Were Any of the Following Assessments Conducted (Economic Evaluation, Needs Assessment, Process Evaluation)?:

No

Demographic and Implementation Description

Diseases, Disorders, or Conditions:

Obesity

Race/Ethnicity:

American Indian or Alaska Native, Native Hawaiian or other Pacific Islander

Populations with Health Disparities:

People with Lower Socioeconomic Status (SES), Racial and Ethnic Minority Populations, Underserved Rural Communities

Age:

Children (1 - 9 years)

Socio-demographics / Population Characteristics

Community Type:

Rural, Urban / Inner City

Other Populations with Health Disparities:

Unspecified

Geographic Location:

Alaska Boroughs and Census Areas, Anchorage, Fairbanks North Star, Kenai Peninsula, Matanuska-Susitna, Hawaii, Hawaii, Honolulu, Kalawao, Kauai, Maui, American Samoa, Guam, Northern Mariana Islands

Socio-Economic Status:

Low SES, Middle SES

Research Framework

		Levels of Influence			
		Individual	Interpersonal	Community	Societal
Determinant Types	Biological	✔			
	Behavioral	✔	✔	✔	✔
	Physical / Built Environment	✔	✔	✔	✔
	Sociocultural Environment	✔	✔	✔	✔
	Health Care System			✔	✔

Community Involvement

The community's role in different areas of the Intervention (Choices are "No Role", "Participation", and "Leadership"):

Design:

Participation

Dissemination:

Leadership

Evaluation:

Participation

Implementation:

Leadership

Outreach:

Participation

Planning :

Participation

Recruitment:

Participation

Sustainability:

Leadership

Characteristics and Implementation

Intervention Focus Area:

Behavior Change, Physical Environmental Change, Policy Change, Quality Improvement or Organizational Change, Social/Societal Change

Disease Continuum:

Primary Prevention

Delivery Setting:

Business / Retail, Clinic / Health Care Facility, Daycare / Preschool, Home, Local Community (e.g. Barbershops, Beauty / Hair Salon, Laundromats, Food Markets, Community Centers), Parks and Recreation, Houses of Worship, Schools / Colleges

Mode of Delivery:

In-person, Online/e-Health

Who delivered the Intervention?:

Community Health Worker/Promoters, Healthcare Professional (Physician, Nurse, Technician), Care Providers, Teachers

Conceptual Framework

Intervention Theory:

Diffusion of Innovation Theory, Social Cognitive / Social Learning Theory, Social Marketing, Theories of Organization Change (e.g. Dimensions of Organizational Change, Stage Theory, Interorganization Relations Theory, Community Coalition Action Theory)

Intervention Framework:

Community Organization / Community Building, Social Determinants of Health Conceptual Framework, Social Ecological Model, Analysis Grid for Elements Linked to Obesity (ANGELO) Framework

Implementation

Intervention Study Design:

Cluster Randomized Controlled Trial

Targeted Intervention Sample Size:

4333

Actual Intervention Sample Size:

4042

Start Year:

2012

End Year:

2015

Intervention Exposures

Duration of Intervention/How Long it Lasted:

2-3 years

Frequency of Intervention Delivery:

Varies per community

Number of Sessions/Meetings/Visits/Interactions:

More than 10 Sessions

Average Length of Each Session/Meeting/Visit/Interaction:

1-2 Hours

Format of Delivery:

Dyad/Group of two (e.g. participant & partner; mother & child), Group (e.g. Community leaders)

Highest Reading Level of Intervention Materials Provided to Participants:

Grade 8-9

Impact, Lessons, Components

Produced an impact or change beyond the primary or secondary outcome:

Yes

The intervention had a number of important unanticipated positive effects that demonstrated sustainability and long-term change, which were tracked and examined in further study and analysis. These positive effects included creation of coalitions and ongoing professional development among individuals involved in the intervention.

Essential Aspects for Success:

The use of a common intervention template derived from a blend of community and evidence-based approaches and actions provided flexibility for each community to localize and tailor the intervention to build on and strengthen local initiatives, circumstances, and indigenous culture.

Lessons Learned

Key Lessons Learned and/or Things That Could be Changed or Done Differently:

The measured effect of the intervention may have been dampened by intervention activities like messaging and advertising affecting control communities. The use of wrist accelerometers to measure activity needs further evaluation to determine if the measurements are effective in capturing the movements of young children.

Insights Gained During Implementation

Insight Category	Insight Description
Cost of Implementing or Sustaining	Training of community members, including degree training, was vital for sustaining the intervention.
Logistics	The common US land grant college structure was key to the success of the intervention across diverse communities and political systems.
Administrative Resources	A high degree of administrative support was needed for contracting multiple communities.
Training / Technical Assistance	Training and leadership of community members was key to success.
Staffing	Local leadership and role modelling of various behaviors and activities in local settings was essential.
Recruitment	Embedding recruitment into local community organizations, such as Headstart, was effective.

Intervention Components

Intervention Has Multiple Components:

Yes

Assessed Each Unique Contribution:

Yes

Products, Materials, and Funding

Expertise, Partnerships, and Funding Sources

	Used for Implementation	Needed for Sustainability
Expertise		
Community mobilization, community organization/coalition building	Yes	Yes
Health Education / Health Literacy	Yes	Yes
Health communication, health marketing/publicity	Yes	Yes
Key informants, Tribal leaders, Community gatekeepers	Yes	Yes
Partnerships		
Health care facilities (local clinics)	Yes	Yes
School system (e.g. school administrators, health educators, daycares, preschools, private & public schools)	Yes	Yes
Universities	Yes	Yes
Community groups (e.g. faith-based organizations, barbershops, beauty-salons, laundromats, food markets, community centers, cultural associations, tribal groups)	Yes	Yes
Funding Sources		
Public funding (e.g., federal, state or local government)	Yes	Yes

Product/Material/Tools

	Tailored For Language	Language(s) if other than English	Material
Outreach/Recruitment Tools			
Publicity Materials (e.g. Posters, Flyers, Press Releases)	No		https://www.chl-pacific.org/extension-and-outreach-center/chl-food-systems__trashed/resource-materials/
Participant Educational Tools			
Brochures/Factsheets/Pamphlets	Yes	Samoan	https://www.chl-pacific.org/extension-and-outreach-center/chl-food-systems__trashed/resource-materials/
Measurement Tools			
Standardized Instrument/Measures	Yes	Samoan	https://www.chl-pacific.org/chl-data-center/research-requests/data-resources/

Implementation Materials and Products

	Material
Implementation/Delivery Materials	
No Implementation/Delivery Materials provided.	
Implementation/Output Materials	
No Implementation/Output Materials provided.	

Articles Related to Submitted Intervention

	Article
Reports/Monographs	
No Reports/Monographs provided.	
Additional Articles	
Methodology	https://pubmed.ncbi.nlm.nih.gov/24043557/