Interventions in American Indian/Alaska Native Childhood Obesity: A literature review

Presentation by
Laryssa Nunn

References

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Introduction

Childhood obesity is a health concern for nearly every race in the United States, but it has been shown to be more prevalent in the American Indian/Alaska Native communities. A report from the U.S. Department of Health and Human Services Office of Minority Health states that American Indian/Alaska Native children are 30% more likely to be obese compared to children of non-Hispanic white descent. The same report states that the percentage of American Indian/Alaska Native children ages 2-17 who have been given advice from a provider about healthy eating was 58.2%. In recent years there have been some connections between the foods that were consumed before and after colonization/contact and childhood obesity in native communities. A group of native children were asked to name traditional foods from their culture. Many of these children answered with "fry bread". Fry bread was not a traditional food for native communities. It came into native culture after the removal, using the commodities the were given to them. Traditional foods in many native cultures consisted of corn, beans, squash, and local game. These foods led to a much healthier lifestyle, whereas post-removal commodidites were mostly processed foods which have led to higher risks for more conditions such as obesity.

The purpose of this project is to analyze 5 different obesity interventions specifically for American Indian/Alaska Native children. The methodology consists of reviewing articles on Google Scholar and the Northeastern State University Library database.

Findings/Conclusion

- Strengths
  - All programs take into account cultural values and practices.
  - FSN: Involves community members & elders, instilling a sense of community support.
  - ND: By investigating multiple factors, there is more data related to the results of the intervention.
  - HCSF2: Incorporates proven strategies for health & wellbeing strategies among AI families.
  - GN: Adheres to strict ethical standards including respect for cultural protocols.
  - FRESH: Combines quantitative data with qualitative insights.
- Weaknesses
  - Each program requires significant resources including trained personnel, materials, & ongoing support.
  - FSN: Maintaining the program's effectiveness over a long period of time may depend on funding and community support.
  - ND: Using self reports from children could potentially cause confusion in the interpretation of results.
  - HCSF2: In these programs, dropout rates of participants is particularly high.
  - GN: There are issues pertaining to language barriers, such as translation issues and differing interpretations.
  - FRESH: Complexities in the study of food resource equity can complicate data collection, analysis, & interpretation of results.
- Future recommendations
  - Advocating for policies at tribal, state, & federal levels that support food sovereignty & addresses access issues within tribal lands.

Table 1: Intervention Descriptions

Title of Intervention	Type of Intervention/Program	Population	Methods	Results/Conclusions
Family Spirit Nurture (FSN)	• One-on-one home visiting program with 36 lessons taught by locally hired Native American Family Health Coaches. • Randomized Control Trial (RCT) testing the efficacy of the program on reducing childhood obesity in Native American children.	• Pregnant Native American mothers ages 14-24 & their children • Enrolled from pregnancy to 24 months postpartum.	• Mixed methods approach including self-reports, observations, & physical/biological data collection. • Randomly assigned to either the intervention group or a control group. • Data was assessed at 11 intervals from 32 weeks' gestation to 2 years postpartum	• None of the federally endorsed home-visiting models have shown impacts on preventing early childhood obesity. • The original program demonstrated effectiveness on maternal and child behavioral health outcomes, excluding obesity-related risk factors. • Findings from this trial could provide valuable insights into the effectiveness of home-visiting interventions for obesity prevention and could contribute to expanding public health strategies addressing the global obesity crisis.
The North Dakota School-Based Health Program (ND)	• School-Based	• 291 Native American children from the Northern Plains	• The Body Mass Index (BMI) for the sample group was measured by a tribal program. • The participants completed surveys about themselves during health class. • Data was analyzed for 232 children using a statistical method that looks at multiple factors in stages. • This analysis included three groups of factors that might predict BMI: diet & physical activity, attitudes about weight, & psychological factors.	• Greater BMI scores were related to healthier food choice intentions, more hours of television viewing, greater body dissatisfaction, higher negative attitudes toward body size, & more weight loss attempts.
Healthy Children, Strong Families 2 ($HCSF_2$)	• Randomized control trial of a healthy lifestyle promotion/obesity intervention	• 450 families consisting of an adult caregiver & a child, 2-5 years old. • From 5 different Native American communities.	• Participants were randomly assigned to receive a monthly toolkit called Wellness Journey • Specific focuses included increasing fruit and vegetable intake, engaging in physical activity, improving sleep quality, reducing sugar intake & screen time, & enhancing stress management (adults only) • Body measurements & health behaviors were assessed at the beginning & end of the first year. • Adults completed surveys for themselves & the participating child.	• Significant improvements to adult and child healthy diet patterns • No observable changes in adult or child BMI, adult stress measures, adult/child sleep & screen time, or child physical activity. • This multi-site community-engaged intervention addressed key gaps regarding family home-based approaches for early obesity prevention in Native American communities & showed several significant improvements in health behaviors.
The "Got Neqpiaq?" Study (GN)	• School-Based 6 week pilot program for a cultural physical activity program • Program began to emphasize the need for traditional healthy foods in head start programs	• Head Start children 3-5 years old. • Participants lived in 12 communities located in the remote rural Yukon-Kuskokwim region of Alaska.	• The Alaska Native Tribal Health Consortium partnered with 12 head start preschool programs, administered by Rural Alaska Community Action Program to explore with community members Alaska Native value-based solutions to the concerns they raised. • Local input was gathered through focus groups, interviews, & surveys,	• The processes used to create the activity guide were strength-based & participatory. • Teachers reported that students were excited to try new activities & games. • There was a significant increase from the baseline in structured physical play, as documented by the teachers.
The FRESH Study (FRESH)	• Randomized, wait-list controlled trial of a multi-level (environmental, community, & individual), multi-component intervention.	• 176 families of children attending Osage Nation Early Childhood and Education programs in 4 communities • 2 communities received the intervention & 2 served as wait-list controls.	• Data collection at baseline & 6 months post-intervention. • 193 children (106 in intervention; 87 in control). • 170 adults (93 in intervention; 77 in control).	• Measured outcomes included change in dietary intake, body mass index, health status, systolic blood pressure (adults only), & food insecurity in children & parents. • Vegetable intake increased significantly in intervention group compared to the control group. • Willingness to try beans increased in intervention group & willingness to try tomatoes increased in both groups.