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<https://escholarship.org/uc/item/0qg4h1wt>

**Journal**

AAPI Nexus: Policy, Practice and Community, 9(1-2)

**ISSN**

1545-0317

**Author**

Sim, Shao-Chee

**Publication Date**

2011

**DOI**

10.36650/nexus9.1-2\_184-192\_Sim

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Peer reviewed

# Childhood Obesity in the Asian American and Pacific Islander Communities: Critical Data Needs and Research Priorities

Shao-Chee Sim

## Summary

Asian American, Native Hawaiian, and Pacific Islanders (AANHPIs) have some of the fastest-growing rates of obesity of all ethnic groups (Harrison et al., 2005). Preventing childhood obesity among AANHPIs is a challenge constrained by resource and research gaps. These include the lack of national prevalence data, insufficient funding support, limited knowledge of risk factors associated with childhood obesity, particularly in these populations, and the lack of programmatic evaluations. The finding of this literature review shows that only 0.11 percent of PubMed articles on childhood obesity focused on AANHPIs. Recommendations to advance what is known about AANHPI and childhood obesity include targeting community prevalence studies, community needs assessments, risk factor studies, and program evaluations; training and mentoring junior researchers; and creating a national clearinghouse to compile research literature and evidence-based practices.

## Methodology

To identify research gaps in childhood obesity for AANHPIs, a search was conducted for peer-reviewed articles published from January 1990 to May 2009 on PubMed/Medline. Search terms included *Asian American, Chinese American, Japanese American, Korean American, Filipino American, South Asian American, Native Hawaiian, Pacific Islander, Samoan, childhood obesity, overweight children, and obese children*. The search also included AANHPI childhood obesity data in national population-based survey studies such as National Health and Nutrition Examination Survey (NHANES), National Survey of Children's Health (NSCH); Youth Risk Behav-

ior Surveillance System (YRBSS); and Pediatric Nutrition Surveillance System (PedNSS).

## Findings

### Summary of Literature

A total of twenty-eight articles that contain the key words *Asian American*, *Native Hawaiian*, *Pacific Islander*, and *childhood obesity* were found. Eight articles were excluded as they did not study the appropriate populations or did not have a large AANHPI population (less than 5%) included in its sample size. Twenty articles are hardly significant as the total number of “childhood obesity” published articles is 18,014. Of these twenty articles, twelve focused on the prevalence of childhood obesity; six addressed risk factors associated with childhood obesity; and two examined the effectiveness of intervention in combating childhood obesity. The articles on childhood obesity among AANHPI groups comprised merely 0.11 percent of all articles on childhood obesity.

### Prevalence Studies

The available national-level data show that AANHPI children face risks from childhood obesity and overweight. The most recent Early Childhood Longitudinal Study data set shows that 12.8 percent of Asian American four-year-old children are obese (Anderson and Whitaker, 2009). An analysis of the NSCH data set (Singh, Kogan, and Yu, 2009) found that significant percentages of Asian immigrant children were overweight and obese (14.5%-31.8%), at nearly twice the rate of American-born Asian children (6.3%-17.5%). However, one study of overweight children among a representative sample of pediatric patients, ages two to eleven, in community health centers found no significant differences in overweight prevalence among Asian American, Hispanic, non-Hispanic black, and non-Hispanic white children, and that prevalence among Asian American males, ages six to eleven, was 33.6 percent, the highest across all racial groups (Stettler et al., 2005). Another study of the National Longitudinal Study of Adolescent Health survey found that the obesity prevalence rate for Asian American adolescents was 20.6 percent (Popkin and Udry, 1998).

At the state and local levels, childhood obesity prevalence studies are only available from Hawaii, California, and New York. In a review of student health records between 2002 and 2003, Po-

bustky and colleagues (2006) found that almost one-third of children aged four to six entering Hawaii public schools are either overweight or at risk for being overweight. Similarly, Baruffi and colleagues (2004) and Chai and colleagues (2003) found that Hawaiian children were taller and heavier than their counterparts. Using 2003 and 2005 data from the California Health Interview Survey, Ponce and colleagues (2009) found that AANHPIs had the fastest rate of increase in overweight and obese youths of all ethnic groups in California. Specifically, Samoan fifth graders have the highest percentage (54%) of all children in the state whose body mass index (BMI) is not within the Healthy Fitness Zone (HFZ). HFZs are research-based standards for aerobic capacity; body composition; and muscular strength, endurance, and flexibility. These standards indicate levels of fitness necessary for good health. At a local community level, Au and colleagues (2009) conducted a chart review of Chinese American pediatric patients at Charles B. Wang Community Health Center in New York City's Chinatown. They found that the combined overweight and obesity prevalence rate among Chinese American children aged six to nineteen years was 24.6 percent while the prevalence rate among U.S. born Chinese American boys aged six to twelve years was 40 percent.

### **Risk Factors Studies**

A number of studies (Chen 2009; Chen and Wu, 2008; Chen and Kennedy, 2005; Harrison et al., 2005; Unger et al., 2004) suggest that acculturation of children and mothers is associated with lower levels of physical activity, higher levels of fast food consumption, and children being overweight. Both Chen (2009) and Harrison and colleagues (2005) identified household income and parents' long work hours as barriers to adopting a healthier lifestyle. Also, Chen and Kennedy (2005) indicated that older age, a democratic parenting style, and poor family communication had contributed to an increased BMI in Chinese American children. However, due to the small number of studies, more research is needed to ascertain whether these findings can be generalized across various AANHPI ethnic groups and age cohorts.

### **Intervention Studies**

In the two published articles assessing the effectiveness of childhood obesity intervention (Chen et al., 2008; DeRenne et al.,

2008), both research teams applied a conventional prepost design. In assessing the effectiveness of the individually tailored educational intervention that focused on health behavior modification within the context of the family and its environment and culture,<sup>1</sup> Chen and colleagues found general improvements in children's usual food choices, knowledge of nutrition and physical activity needs, and time spent engaging in physical activities. In another evaluation, DeRenne and colleagues found a significant decrease in skinfold thicknesses and an increase in distance covered in the three-minute walk-run test among participants in two different physical activity interventions over a twelve-week period.<sup>2</sup>

Unfortunately, given the small sample and the prepost design of these studies (e.g., lack of control group), these results are not generalizable and suggest very little about "what works and what does not" in regard to the interventions. Equally important, very little is known about "culturally and linguistically appropriate" childhood obesity interventions in AANHPI communities.

### Summary of National Health Survey Data Sets

In many government-funded national health surveys, AANHPI samples remain too small to be analyzed as a distinct ethnic/racial category. The NHANES data set, which produces childhood obesity prevalence estimates and has been used by policy makers, funders, and researchers to inform policy and funding decisions, did not report on AANHPIs. Also, AANHPIs were categorized as "Other" in the NSCH and the YRBSS data sets. In the PedNSS, an AANHPI category exists. However, the data was not disaggregated among AANHPI subgroups in PedNSS, and this broad grouping of AANHPIs could potentially mask substantial heterogeneity within groups.

In summary, the three AANHPI childhood obesity data gaps and research needs are (1) the lack of reliable prevalence estimate on AANHPI childhood obesity; (2) the lack of data to ascertain the complex interplay of risk factors associated with childhood obesity, such as acculturation, household income, parenting style, family communication; and (3) the lack of local programmatic evaluation data to inform childhood obesity intervention design in the AANHPI communities. These challenges, to a large extent, can be attributed to the lack of dedicated funding resources and researchers to support research activities or build an evidence base to address childhood obesity in AANHPI communities.<sup>3</sup>

## Recommendations

Based on the findings, policy makers, funders, and community advocates should target their resources to expand the knowledge base on how best to prevent and combat childhood obesity in the AANHPI communities.

### Criteria

1. Consider target states and local communities that have the highest AANHPI populations and/or AANHPI children populations.
2. Focus areas could, with scientifically rigorous sampling strategies, be local prevalence studies, community needs assessments, risk factor studies, and program evaluation studies.
3. Through more targeted research/evaluations, identify aspects of program interventions that can be replicated in other organizations serving AANHPI populations.

### Strategies

1. Develop a network of researchers and community leaders interested in preventing obesity among AANHPI children.
2. Train and mentor researchers throughout their projects. Conduct a series of national summit meetings to shape research priority agenda and to share research evidence.
3. Create a national clearinghouse to compile research literature and evidence-based practices on how best to prevent childhood obesity in the AANHPI communities.
4. Develop a public health education and technical assistance toolkit to assist community organizations that serve AANHPI population in efforts to prevent childhood obesity.
5. Finally, due to the tremendous diversity within AANHPI communities, public and private funders should consider supporting either university-based research centers with a national reputation in public health and/or childhood obesity research, national nonprofit intermediary organizations with some public health research understanding and capacity, or a university/community partnership that could work with AANHPI community organizations (e.g., community health centers, schools, afterschool programs, parent teacher associations, and/or other civic organizations) to understand the local history, culture, norms, and lifestyles; have trust and credibility

with local AANHPI communities; and network with key stakeholders at various local AANHPI communities.

The issue of childhood obesity within the AANHPI community has remained on the sideline for too long in most public policy and funding decision discourses, despite the alarming statistics of childhood obesity within AANHPI communities revealed in the limited number of published studies. It is essential that funders, public health advocates, community practitioners and researchers begin advancing a knowledge and action agenda to prevent and combat childhood obesity within the diverse AAPI communities. Policy makers and funders should consider some of the recommendations mentioned in this brief, including community prevalence studies, community needs assessments, risk factor studies, and program evaluations; training and mentoring junior researchers; and the development of a national clearinghouse to compile research literature and evidence-based practices.

### Acknowledgments

This project was supported by the Robert Wood Johnson Foundation. The author would like to acknowledge the guidance and encouragement provided by Dr. Celeste Torio and Dr. Dwayne Proctor in developing the manuscript. Shirley Chan assisted with the project. Laureen Hom and Celina Chan reviewed the manuscript.

### Notes

1. In this intervention, mothers received several educational materials on nutrition, physical activity, and healthy weight maintenance. The materials, which were written in English and Chinese, were adapted from materials developed from the Centers for Disease Control and Prevention, American Heart Association, American Diabetes Association, and Joslin Diabetes Center. These documents were adapted to reflect the health practices of Chinese and Chinese Americans.
2. School A implemented the Exemplary Physical Education Curriculum, a curriculum designed to help youth attain necessary fitness levels, motor skills, knowledge, and attitudes to be fit for life. School B's supervisor, who has a background in physical education, offered her own structured program, featuring a three-week block with sessions of flag football, basketball, volleyball, and softball. The total physical activity time was about fifty minutes. Anthropometric measurements, health-related physical fitness, and knowledge and attitudes on physical activity were taken at the beginning and end of the twelve-week period.

3. The only local grant-making effort is a recent childhood obesity initiative of the Asian Pacific Fund, a California-based intermediary organization, which provided small grants (ranging from \$1,000 to \$23,000) to ten diverse community-based organizations serving low-income Asian American youth. These grants focused on exercise, general recreation, and healthy eating habits. However, the Asian Pacific Fund could only devote the limited funding to support program activities and services rather than research or evaluation activities.

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SHAO-CHEE SIM, PhD is the Director of Research and Evaluation at the Charles B. Wang Community Health Center in New York City. Besides conducting research studies pertaining to Asian American health and evaluating disease prevention, intervention and health service projects, he also provides technical support to clinical teams in carrying out patient satisfaction surveys and quality improvement activities. Dr. Sim has also worked as evaluation consultant for foundations and nonprofits. Previously he served as the Research and Evaluation Officer at the Wallace Foundation and the Director of Research at the Asian American Federation.