

Water is K'é:

A Community-Based Intervention to Increase Healthy Beverage Consumption by Navajo Preschool Children

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Tó éi K'é Water is Kinship, Identity, Connection

Harnessing Navajo traditional culture and Western science to create a promising approach to improve drinking water consumption and to decrease consumption of sugary drinks.



BACKGROUND

- Navajo Nation has disproportionately high rates of diet-related chronic diseases among children and adults. This includes:
 - American Indians and Alaska Natives are almost three times more likely than non-Hispanic whites to be diagnosed with diabetes,¹ and 50% more likely to be diagnosed with coronary heart disease²
 - Type 2 diabetes incidence among Navajo youth up to 11 times higher than non-Hispanic white youth^{3,4}
 - A study of Navajo Nation Head Start preschoolers (ages 3-5) found that 89% had experienced tooth decay, compared with 16% of US non-Hispanic white children at the same age⁵
- Added sugars in the diet are a risk factor for these and other chronic diseases⁶
- Sugary drinks are the largest single source of added sugars in the American diet;⁷ 42% of Navajo adults drink soda daily⁸
- Water is the zero-calorie alternative for sugary drinks, with health benefits of its own⁹
- Many indigenous communities face water scarcity due to underinvestment in water infrastructure and historical precedents of water diversion and contamination on reservation lands¹⁰
- Families with greater water insecurity may be more likely to rely on sugary drinks as an alternative¹¹

WATER IS K'É - A CULTURALLY BASED INTERVENTION

- Curriculum with four monthly lessons with activities, information, and goal setting (“family promise”)
- Delivered by ECE teachers in homes or at Early Childhood Education sites; engages children and caregivers
- Topics covered:
 - Diné (Navajo) words of the month, importance of water in Diné culture
 - Health benefits of water, how much water children should drink, signs of dehydration in children
 - Why sugar is unhealthy, how to spot sugary drinks, and healthy alternatives to sugary drinks
 - Caregiver skills: how to promote water at home, reading labels, infused water recipes

OUR STUDY

- Community Advisory Group (CAG) met monthly by videoconference to frame the intervention, uncover challenges and gaps, and then guide development of curriculum content
- Participants were 21 households with children ages 2-5 enrolled in four Family and Child Education (FACE) preschools on Navajo Nation. FACE is a program run by the Bureau of Indian Education that provides early childhood, parenting and adult education to families from pregnancy through the first 5 years
- CAG members and other stakeholders took part in a post-pilot convening to discuss results, develop recommendations and next steps

KEY FINDINGS

- Most caregivers (90%) had a college education or higher
- More than 1/3 of households (38%) were food insecure; 38% of households were enrolled in SNAP, but only 19% were enrolled in WIC
- The majority (86%) of households had tap water at home, but only 38% trusted their tap water's safety
- At baseline more than 70% of children already drank water several times daily, yet they also consumed more sugary drinks, particularly sweetened juice and flavored milk, than experts recommend
- After the intervention, children consumed 21% less sugary drinks, providing an average decrease of 26 calories a day. Children consumed 16% more water and drank more unflavored milk and less flavored milk
- Notably, caregivers reported that their knowledge of Diné traditions about water doubled and that the influence of Diné traditions on beverages they offered their children more than double

CONCLUSIONS

This small pilot suggests promising approaches for increasing the healthfulness of Navajo children's beverage intake. Improvement in caregiver knowledge of traditional Diné reverence for water may have influenced the change in beverages offered to children.



NEXT STEPS SUGGESTED BY PILOT STUDY

Community engagement

- Present study findings, conclusions and opportunities to Tribal leaders for reactions and feedback
- Disseminate study report to other tribes and similarly situated communities for their consideration

Continue community-based participatory research

- Redo this study at a larger scale, in Head Start sites and additional FACE sites
- Continue with active involvement by a Community Advisory Group and other community members

Community's recommendations for change

- Promote and assist enrollment and retention in WIC program
 - WIC provides healthy foods, health tracking, breastfeeding support and nutrition education
- Provide Diné based drinking water education annually in ECE and K-12
- Investigate strategies to improve consumer trust in tap water, such as water utility community outreach, education to read Consumer Confidence Report, provision of household water filters
- Create kid-friendly messaging, such as action figures and short videos, promoting water, for social media and in grocery stores; pair with less prominence of sugary drinks in stores
- Wrap water into nutrition security programs, e.g., combine Water is K'é with food programs such as produce prescription programs, school/backyard gardens, farm to school, and food distribution hubs

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