Leveraging Cultural Capital in Diabetes Prevention for Youth: The Medical Wellness Model

IHS Division of Diabetes Webinar

January 20, 2016
Epidemic/Endemic: Diabetes

Likelihood of American Indian/Alaska Native youth aged 10-19 to be diagnosed with type 2 diabetes is 1.74 per 1000 vs 0.19 per 1000 for non-Hispanic whites.*

% increase in diagnosed diabetes from 1990-2009 in AI/AN youth aged 15-19 rose from 3.24 per 1000 to 6.81 per 1000.**


**Source: IHS Division of Diabetes Statistics (unpublished analysis)
Risk Factors: Overview

High % of native ancestry

Strong family history
  • DM in first degree relatives
  • Gestational birth
  • Low birth weight

Childhood Obesity

Hyperinsulinemia

Impaired glucose tolerance

Acanthosis Nigrican
Health Impact/Complications: Overview

• Ongoing socio-cultural difficulties/stress
• Poor quality of life
• Overall poor self-management can lead to other complications:
  • Hypertension/heart disease/hyperlipidemia
  • Retinopathy (vision difficulties)
  • Amputations
  • Polycystic ovarian syndrome
  • Fatty liver disease/Renal failure (ESRD)
  • Premature mortality, etc.
Treatment/Interventions: Overview

• Medical
  • Metformin & oral agents
  • Insulin/insulin pump
  • Treatment for co-morbidity
  • Surgery

• Lifestyle changes
  • Health assessments
  • Teaching on improving nutrition/eating habits
  • Increasing physical activity

• Ongoing follow-up and Diabetes education
Leveraging Cultural Capital in Diabetes Intervention for Youth

A form of intervention strategies that builds on cultural practices, products, philosophies, or shared environment to facilitate health awareness and to encourage behavioral change.

--spoken language, shared norms, beliefs, expectations, and local tribal or community customs regarding health promotion.

Source: Joe, J.R. (2014) Promoting Cultural Capital in a Medical Camp for American Indian Youth with Diabetes, AICRJ 38(1)123-144.
1991: First Wellness Camp
Lessons Learned

- Camp site requirements: a friendly environment
  - all but kitchen staff from tribal communities (volunteers/counselors)
  - a medical team
- Criteria for campers
  - age
  - risk factors
  - medical & family application
- Curriculum
  - dietary/physical activities
  - diabetes education
  - pre/post-test on diabetes knowledge
  - cultural storytelling, games, guest presentation (artists)
- Medical overview
  - medication/side effects
  - one-on-one counseling
  - assessments/glucose/BMI/BP
  - follow-up referrals
DEVELOPING A MORE CULTURALLY AND MEDICALLY APPROPRIATE CAMP FOR INDIAN YOUTH
A Typical Week at Camp

Assessments

Tribal Traditions

Nutrition & Diabetes Education Sessions

Physical Activities

Interactive Group Sessions
Partnership with Communities

Southwest Tribes
Tribal Health Departments
Indian Health Service
Diabetes Programs
Wellness Programs

Camp planning committees
Camp Volunteers
Shared costs
Assessment results
Annual Report
Community follow-up
Documentation and Training

Tools available upon request
Critical Measures

- Age
- Sex
- Height
- Weight
- Age
- Glucose
- Cholesterol
- Physical Fitness
- Nutrition
- Risk Factors
# Findings – Summer 2014 (n=35)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>Range</th>
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<tbody>
<tr>
<td><strong>Blood Pressure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic</td>
<td>103.3</td>
<td>(79-138)</td>
</tr>
<tr>
<td>Diastolic</td>
<td>67.5</td>
<td>(46-84)</td>
</tr>
<tr>
<td><strong>Heart Rate</strong></td>
<td>91.5</td>
<td>(74-114)</td>
</tr>
<tr>
<td><strong>Waist Circumference</strong></td>
<td>42.4 in</td>
<td>(26.2-57.1)</td>
</tr>
<tr>
<td><strong>A1c</strong></td>
<td>5.7</td>
<td>(4.9-10.8)</td>
</tr>
<tr>
<td><strong>Fasting Cholesterol</strong></td>
<td>168</td>
<td>(150-240)</td>
</tr>
<tr>
<td><strong>Fasting Glucose</strong></td>
<td>92.3</td>
<td>(72-146)</td>
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</tbody>
</table>
Findings – Summer 2014 (n=35) Cont.

Progressive Aerobic Cardiovascular Endurance Run
(PACER) 20 METER 10.6 final laps (2 – 24)

HEIGHT 62.3 in (5.2 ft)
WEIGHT 180 lbs (74 – 313)

Tanita Body Composition Analyzer SC-331S - Intake
FAT % 40.4% (8.3 – 61.7)
BODY FAT MASS 77.2 lbs (7 – 153)
LEAN BODY MASS 99.7 lbs (57 – 158)
BODY MASS INDEX 31.4 (16.4 – 44.7)

Cancer Health Disparities Institute and Diabetes Action Research and Education Grants
## Technology

**DAY 2**

<table>
<thead>
<tr>
<th>Category</th>
<th>Duration</th>
<th>Range</th>
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<tbody>
<tr>
<td><strong>ACTIVE TIME</strong></td>
<td>9:06</td>
<td>(4:51 – 12:26)</td>
</tr>
<tr>
<td><strong>STEPS TAKEN</strong></td>
<td>27,781.4</td>
<td>(13,880 – 41,037)</td>
</tr>
<tr>
<td><strong>KILOCALORIES BURNED</strong></td>
<td>3,563.2</td>
<td>(1,864 – 6,353)</td>
</tr>
<tr>
<td><strong>SLEEP LAST NIGHT</strong></td>
<td>7:37</td>
<td>(2:27 – 9:07)</td>
</tr>
<tr>
<td><strong>RESTFUL SLEEP</strong></td>
<td>6:12</td>
<td>(1:51 – 7:28)</td>
</tr>
<tr>
<td><strong>RESTLESS SLEEP</strong></td>
<td>1:24</td>
<td>(0:36 – 2:12)</td>
</tr>
<tr>
<td><strong>% RESTFUL SLEEP</strong></td>
<td>81.3%</td>
<td>(75% - 92%)</td>
</tr>
</tbody>
</table>
Data Utilized by the Community Health Care Providers

- A copy of results are given to:
  - Parents
  - Community partners
- A copy of results placed in medical charts
- Referrals made for follow-up, as necessary (measures out of range)
  - Resources not always readily available
  - Multidisciplinary approaches usually necessary
Next Steps

- Assessing longitudinal data
- Follow-up with youth for 6 months post-camp
- Including 24-hours dietary recalls
- Parent-focused education and health coach
- Seeking continuing support and grant writing
The Need to Follow Biomarker Trails

A Sample of 4753 Pima Children between 1965 & 1998
  100 children diagnosed with type 2 diabetes
  548 with IGT
  4105 with normal glucose level

10 years later
  169 (11%) with normal glucose developed T2DM
  241 (45%) with IGT developed T2DM

Are We Doing Enough?

Increasing number of initiatives underway—”Just Move It”

Community-based health promotion programs
Focus on obesity prevention
Special efforts
  Oklahoma’s Native Youth Preventing Diabetes
  started 2002—children & youth over age 12
  (biomarkers: FBG; Cholesterol; BMI; BP; waist circumference).

Others: day camp, family camp, and residential camp

* A need for standardizing and tying data to on-going treatment/follow-up for youth
A Need for a Model of Care for Children and Youth with T2DM

A model that takes into account a more patient-centered care that includes attention to:

- Knowledge and self-care management skills
- Influence of youth culture & tribal culture on health
- Knowledge about diabetes (health literacy)
- Co-morbidity concerns (depression)
- Family environment

Promotes a friendly learning environment
Builds network and confidence
Thank You

Any Questions?
Suggestions?

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