How It All Started

- 18 y.o. Asian American female college student presented with fatigue, polyuria, and hyperglycemia, no FH, BMI <25, mild ketone in urine, negative anti-islet antibody panel

- 20 y.o. Asian American male college student presented with fatigue and hyperglycemia, FH of DM—grandfather, BMI <25, no ketone in urine, negative anti-islet antibody panel

Our Approach

- Culturally Appropriate Care
- Asian Clinic
- Research
  - Clinical & Education Studies
- Activities of the AADI
- Outreach
  - Local, national and international events & collaborations
- Education
  - Patient Ed Materials
  - Professional Ed
  - Interactive Website

Epidemiology

Copyright © 2013 by Joslin Diabetes Center, Inc. All rights reserved. These materials may be used for personal use only. Any distribution or reuse of this presentation or any part of it in any form for other than personal use without the express written permission of Joslin Diabetes Center is prohibited.
Copyright © 2013 by Joslin Diabetes Center, Inc. All rights reserved. These materials may be used for personal use only. Any distribution or reuse of this presentation or any part of it in any form for other than personal use without the express written permission of Joslin Diabetes Center is prohibited.
Diabetes Risk by BMI Category in the Hawaii Component of the Multi-Ethnic Cohort Study

Diabetes Risk by Weight Change Category in the Hawaii Component of the Multi-ethnic Cohort Study

Estimated Percent Body Fat at Three Levels of BMI: Whites and Asians

Male

<table>
<thead>
<tr>
<th></th>
<th>BMI=15</th>
<th>BMI=25</th>
<th>BMI=35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>6.5</td>
<td>10.2</td>
<td>31.9</td>
</tr>
<tr>
<td>Asians</td>
<td>10.0</td>
<td>23.6</td>
<td>37.2</td>
</tr>
</tbody>
</table>

Female

<table>
<thead>
<tr>
<th></th>
<th>BMI=15</th>
<th>BMI=25</th>
<th>BMI=35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>15.0</td>
<td>34.2</td>
<td>53.5</td>
</tr>
<tr>
<td>Asians</td>
<td>20.4</td>
<td>38.8</td>
<td>53.0</td>
</tr>
</tbody>
</table>

Abdominal Circumference

Caucasian
- < 102 cm in men
- < 85 cm in women

Asian
- < 90 cm in men (35.5 inches)
- < 80 cm in women (31.5 inches)


<table>
<thead>
<tr>
<th></th>
<th>Type 1 Diabetes</th>
<th>Type 2 Diabetes</th>
<th>Controls</th>
<th>ANOVA P value</th>
<th>Wilcoxon P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>25.4 ± 4.5</td>
<td>31.7 ± 6.3</td>
<td>26.3 ± 4.3</td>
<td>0.023</td>
<td>0.0331</td>
</tr>
<tr>
<td>A1C (%)</td>
<td>6.9 ± 1.1</td>
<td>7.0 ± 1.6</td>
<td>5.2 ± 0.3</td>
<td>0.001</td>
<td>0.1877</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>23.4 ± 1.7</td>
<td>24.5 ± 3.6</td>
<td>23.3 ± 3.9</td>
<td>0.650</td>
<td>0.4965</td>
</tr>
<tr>
<td>Trunk Fat (kg)</td>
<td>6.1 ± 2.1</td>
<td>10.3 ± 4.3</td>
<td>8.0 ± 3.7</td>
<td>0.046</td>
<td>0.016</td>
</tr>
<tr>
<td>FFA (mEq/L)</td>
<td>0.54 ± 0.19</td>
<td>1.09 ± 0.35</td>
<td>0.77 ± 0.26</td>
<td>0.0003</td>
<td>0.0373</td>
</tr>
<tr>
<td>GDR (mg/min/kg)</td>
<td>7.62 ± 2.59</td>
<td>5.43 ± 2.7</td>
<td>8.61±2.37</td>
<td>0.032</td>
<td>0.0942</td>
</tr>
</tbody>
</table>

Hsu WC et al. PLoS ONE. 2011;6(12): e28311

Barriers to Care

Copyright © 2013 by Joslin Diabetes Center, Inc. All rights reserved. These materials may be used for personal use only. Any distribution or reuse of this presentation or any part of it in any form for other than personal use without the express written permission of Joslin Diabetes Center is prohibited.
Impact of Language Barriers in Chinese Americans* with Diabetes

*Patients had comparable diabetes care and self-management behaviors.

Impact of Language Barriers in Chinese Americans

Linguistic Barriers to Diabetes Care

The Asian Clinic

- Established in 2004
  - Patients represent over 10 Asian languages and dialects
    - Burmese, Cambodian, Cantonese, Japanese, Korean, Mandarin, Korean, Tamil, Tagalog, Telugu, Thai, Sinhalese, Vietnamese
  - Individualized care
  - Multilingual Educational Resources
  - Weekly meetings
  - Personal Patient Folder
  - Clinic Coordinator
  - Dedicated Phone Line (617-732-2606)

- Extending Quality Care
  - Incorporating new technology
  - Collaborating with community organizations
  - Evaluating Clinical Outcomes - Integrated with Research

Copyright © 2013 by Joslin Diabetes Center, Inc. All rights reserved. These materials may be used for personal use only. Any distribution or reuse of this presentation or any part of it in any form for other than personal use without the express written permission of Joslin Diabetes Center is prohibited.
Do Ethnic Disparities Extend to Subspecialty Diabetes Care?

Characterization of Factors Affecting Attainment of Glycemic Control in Asian Americans With Diabetes in a Culturally Specific Program
Summary of Results After 12 Months of Care

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Asian Adult (n = 180)</th>
<th>Adult Diabetes (n = 138)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial HbA1c (%)</td>
<td>8.3 (0.5)</td>
<td>7.9 (0.3)</td>
<td>0.000</td>
</tr>
<tr>
<td>Final HbA1c (%)</td>
<td>6.6 (0.7)</td>
<td>6.8 (0.7)</td>
<td>0.077</td>
</tr>
<tr>
<td>Weight change (%)</td>
<td>-0.9 (1.7)</td>
<td>-0.6 (1.7)</td>
<td>0.171</td>
</tr>
<tr>
<td>Percentage with Initial HbA1c ≤7%</td>
<td>32.4</td>
<td>39.9</td>
<td>0.015</td>
</tr>
<tr>
<td>Percentage with Final HbA1c ≤7%</td>
<td>46.9</td>
<td>54.5</td>
<td>0.016</td>
</tr>
<tr>
<td>HbA1c ≤7.5% in both groups</td>
<td>52.6 ± 8.4</td>
<td>50.1 ± 8.5</td>
<td>0.150</td>
</tr>
<tr>
<td>Executive visits</td>
<td>2.8 ± 0.5</td>
<td>3.0 ± 0.5</td>
<td>0.000</td>
</tr>
<tr>
<td>Revised education visits</td>
<td>6.1 ± 0.5</td>
<td>6.2 ± 0.5</td>
<td>0.219</td>
</tr>
</tbody>
</table>

Racial differences in percentage of patients reaching HbA1c ≤7% after 12 months of care, stratified according to initial HbA1c.

Copyright © 2013 by Joslin Diabetes Center, Inc. All rights reserved. These materials may be used for personal use only. Any distribution or reuse of this presentation or any part of it in any form for other than personal use without the express written permission of Joslin Diabetes Center is prohibited.
Lessons Learned

1. Culturally tailored program is effective in reducing racial/ethnic disparities
2. Reasons for not achieving glycemic target differed
3. Only certain subgroups need ethnic tailored program
4. Need to find predictors to enable identification of high risk individuals

Culture

Cultural Factors that Affect Diabetes Selfcare
- Belief system and perception of disease
- Explanatory model for health and disease
- Immigration
- Acculturation and adjustment
- Language and health literacy
- Education and employment
- Accessing healthcare
- Role of the family
- 1st vs 2nd generation
- The second generation
1) Non-adherence
2) Shame factor
3) Starting insulin


AADI’s Mission
To improve the quality of life and health outcomes for Asian Americans living with diabetes through research, education, outreach, and culturally appropriate treatments.

Our Approach
- Culturally Appropriate Care
- Asian Clinic
- Research
  - Clinical & Education Studies
- Outreach
  - Local, national and international events & collaborations
- Education
  - Patient Ed Materials
  - Professional Ed Interactive Website

Copyright © 2013 by Joslin Diabetes Center, Inc. All rights reserved. These materials may be used for personal use only. Any distribution or reuse of this presentation or any part of it in any form for other than personal use without the express written permission of Joslin Diabetes Center is prohibited.