Evaluating the Distribution of Diabetes and Prediabetes in Arizona’s Maricopa County

S. Jaycox and S. Papilialunga
Celerion, Tempe, AZ USA

Introduction

The prevalence of type 2 diabetes mellitus (T2DM) is well documented at the national level. However, data specifically related to Arizona is largely unknown. The Arizona State Health Assessment (2014) indicated that diabetes, prediabetes, and their complications have become a major public health concern in the state. The latest BRFSS audit revealed Arizona has an overall T2DM prevalence of 10.6% in adults (1). Maricopa County, the region which includes the greater Phoenix area (Figure 1), the T2DM prevalence is 9.5% (2).

Methods

Objective

Introduction

Normal <5.7%
Diabetes ≥6.5%
ADA guidelines were used to categorize the HbA1c results (3).

HbA1C results from 792 participants were collected using the A1CNow® handheld monitor (PTS Diagnostics, Indianapolis, IN) with fingerstick blood sampling. All subjects participating in the screening provided basic demographic data and had a postprandial blood glucose test as appropriate.

Corporation, Redmond, WA) and Prism (GraphPad, San Diego, CA). Results were analyzed by Student’s T-test or one-way ANOVA followed by Tukey’s post-hoc test as appropriate.

Results

Table 1. Participant Characteristics. The majority of the participants screened were females and of Hispanic descent. Overall, average HbA1c was similar between males and females and among ethnic/race groups.

<table>
<thead>
<tr>
<th>Ethnic/Race Group</th>
<th>Number of Participants</th>
<th>Average Age (yrs.)</th>
<th>Percent Screened</th>
<th>Average HbA1c ( % )</th>
<th>Diabetes</th>
<th>Prediabetes</th>
<th>Healthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>2705</td>
<td>48 ±13</td>
<td>9 ±14</td>
<td>5.7 ±0.2</td>
<td>15%</td>
<td>33%</td>
<td>52%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2208</td>
<td>40 ±14</td>
<td>14 ±21</td>
<td>5.4 ±0.2</td>
<td>16%</td>
<td>29%</td>
<td>55%</td>
</tr>
<tr>
<td>Native American</td>
<td>342</td>
<td>51 ±18</td>
<td>12 ±22</td>
<td>6.2 ±0.2</td>
<td>26%</td>
<td>26%</td>
<td>48%</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>138</td>
<td>49 ±17</td>
<td>15 ±21</td>
<td>5.2 ±0.2</td>
<td>15%</td>
<td>33%</td>
<td>52%</td>
</tr>
<tr>
<td>Asian</td>
<td>260</td>
<td>46 ±16</td>
<td>14 ±21</td>
<td>5.8 ±0.2</td>
<td>20%</td>
<td>29%</td>
<td>51%</td>
</tr>
</tbody>
</table>

Discussion

In the present study, we observed the prevalence and diabetes and prediabetes prevalence to be 26% and 15% respectively. Moreover, the rate of prediabetes is much higher than previously published in 2014; the Arizona State Health Assessment reported that the rate for adults who were told they had prediabetes was nearly double than that of the BRFSS report.

Conclusions

Our community initiative provided state diabetes and prediabetes education and awareness to Maricopa County residents through community-partnered health fairs and events throughout Maricopa County.

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References


Contact Information

Sharon H. Jaycox, MHA
Medicinal and Pharmacodynamic Specialist, Celerion
www.celerion.com