**Diet quality and ultra-processed food consumption before and after a virtual nutrition intervention for adolescents with ASD**

**Acadia W. Buro, PhD, CPH**
**& Heewon L. Gray, PhD, RDN**

1Department of Health Outcomes and Behavior, Moffitt Cancer Center
2College of Public Health, University of South Florida

---

**Background**

- Adolescents with autism spectrum disorder (ASD) are more likely to have limited food repertoire and may consume more energy-dense foods than their neurotypical counterparts.
- Ultra-processed foods may induce high energy but poor nutrient intake that leads to excess weight gain.
- Nutrition interventions may improve diet quality of adolescents with ASD by decreasing ultra-processed food (UPF) intake and increasing minimally processed food (MPF) intake.

---

**Objective**

To assess whether UPF intake and diet quality in adolescents with ASD changed after an 8-week virtual nutrition education intervention.

---

**Methods**

**Study Design**
Secondary analysis of Block Kids Food Frequency Questionnaire data from a pre/post intervention study.

**Sample**
22 adolescents with ASD aged 12-21 years.

**Analysis**
- Foods coded based on NOVA food processing classifications.
- Participants classified as high/low MPF/UPF.
- Healthy Eating Index 2015 (HEI-2015) used to assess diet quality.
- Descriptive statistics and paired t-tests performed.

---

**Results**

<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline Mean (servings/day)</th>
<th>Post-Intervention Mean (servings/day)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High UPF Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPF</td>
<td>14.0</td>
<td>7.7</td>
<td>0.002*</td>
</tr>
<tr>
<td>HEI-2015</td>
<td>54.5</td>
<td>57.2</td>
<td>0.249</td>
</tr>
<tr>
<td><strong>Low MPF Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPF</td>
<td>5.1</td>
<td>6.8</td>
<td>0.188</td>
</tr>
<tr>
<td>HEI-2015</td>
<td>50.2</td>
<td>56.5</td>
<td>0.025*</td>
</tr>
<tr>
<td><strong>Low UPF Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPF</td>
<td>8.0</td>
<td>10.9</td>
<td>0.023*</td>
</tr>
<tr>
<td>HEI-2015</td>
<td>57.6</td>
<td>59.7</td>
<td>0.344</td>
</tr>
<tr>
<td><strong>High MPF Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPF</td>
<td>11.4</td>
<td>9.8</td>
<td>0.034*</td>
</tr>
<tr>
<td>HEI-2015</td>
<td>61.9</td>
<td>60.5</td>
<td>0.179</td>
</tr>
</tbody>
</table>

**Significant HEI component scores**: The low-UPF group improved HEI-defined refined grain intake (p=0.029) at post-intervention. MPF decreased in the high-MPF group due to decreased total fruit (p=0.031) but not whole fruit consumption as defined by the HEI, indicating a decrease in fruit juice intake.

---

**Conclusion**

- Further research is needed to investigate the relationships between food processing categories and diet quality.
- Future virtual nutrition interventions for this population may emphasize strategies to reduce energy-dense UPF and increase MPF.

---

**Funding**: This secondary analysis did not receive any funding support. AWB is currently supported by the National Cancer Institute Behavioral Oncology Education and Career Development Grant (T32CA090314, MPIs Vadaparampil/Brandon).

**Contact**: Acadia Buro, PhD, CPH
Applied Postdoctoral Fellow
Department of Health Outcomes and Behavior, Moffitt Cancer Center
acadia.buro@moffitt.org